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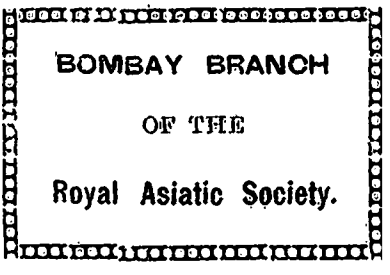

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SELECTIONS

FROM

THE RECORDS

OF THE

GOVERNMENT OF INDIA,

(FOREIGN DEPARTMENT.)

Published by Authority.

N°. XV.

103408

Papers

REGARDING THE

JUBBULPORE SCHOOL OF INDUSTRY.

FLAX OPERATIONS

IN THE

Punjab.

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SURVEY REPORTS

OF THE

CENTRAL AND NORTHERN PORTIONS OF PEGU.

Calcutta:

THOS. JONES, "CALCUTTA GAZETTE" OFFICE.

1856.

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REPORT

ON THE

JUBBULPOOR SCHOOL OF INDUSTRY.

No. 20 OF 1854.

FROM

CAPTAIN G. R. EDWARDS,
Officiating General Superintendent for the Suppression of Thuggee and Dacoitee,

To

C. P. CARMICHAEL, ESQUIRE,
Officiating Secretary to the Government, N. W. P., Agra.

Dated Jubbulpoor, the 23rd May 1854.

SIR,

I HAVE the honor to acknowledge the receipt of your letter, No. 1949 of 1854, dated the 25th ultimo, addressed to Captain J. Sleeman, forwarding Extract of a Despatch from the Hon'ble Court of Directors relative to the Jubbulpoor School of Industry, and requesting him to submit the Report called for, namely, to furnish "full information as to "its present state, together with such particulars of its history and pro- "gress as may be likely to prove interesting."

I much regret that Captain Sleeman's health should have necessitated his leaving Jubbulpoor for England previous to the receipt of your letter, as the preparation of the Report called for now devolves on me; and from my short residence at Jubbulpoor, and connection with the School of Industry, I am unable to do that justice, or bring that personal knowledge to bear on the subject which Captain Sleeman would have been able to do.

In consulting the various records regarding the School of Industry, I find an able account given of its rise and progress up to the beginning of 1848 by Colonel Sleeman, who originated, and was, for so long a period, the

talented and efficient head of the Department for the Suppression of Thuggee and Dacoitee, and I feel I cannot better meet the views and wishes of the Hon'ble Court than by giving, and for the most part in Colonel Sleeman's own words, the rise and progress of the Institution up to that period, after which I shall make use of such periodical official Reports and other Papers as I may find containing interesting matter relating to the subject.

The Jubbulpoor School of Industry was established for the purpose of giving employment to Thug prisoners and approvers, and to instruct their sons in various trades, by practising which, they might, as they grew up, gain an honest livelihood, instead of following the hereditary profession of murder, which their ancestors had so long carried on.

In Colonel Sleeman's published Report on Bhudduck Dacoits of India, his interesting account of the Jubbulpoor School of Industry is to be found. He there states that the School originated with Captain Charles Brown in the year 1838, in accordance with the wishes which he knew were entertained and had been expressed by Colonel Sleeman on the subject.

The following passages are recorded in a letter from Colonel Sleeman to Captain Reynolds, dated 7th March 1837:—"With regard to Mr. Shore's "proposal for establishing the approvers in villages and in agricultural "pursuits, I am of opinion that they should never be relieved from the "strict surveillance or confinement in which they are now employed, and "that the only way in which they can ever be safely employed, is where "such surveillance can be provided, such as manufactures requiring the ap- "plication of manual labor in concentrated numbers. Employed in villages, "as Mr. Shore proposes, they would assuredly either follow their old trade "of murder themselves, or teach others to follow it." In the same letter, with reference to the difficulty of finding honest employment for the sons of Thug approvers, Colonel Sleeman says—"If we could establish "a kind of Manufactory for them, or find any one willing to receive them, "it would be the best mode of providing for them."

Again, in his published Report, Colonel Sleeman states—"The necessity "of providing some means by which the sons of Thug approvers "might learn trades which they would follow from inclination when they "grew up, had been long felt. The Thugs themselves would have wished "their sons to be brought up to their old trade of murder, under the sup- "posed religious sanction, had there been any fair prospect of their

"following it with a moderate chance of escape; but as they saw no "relaxation or prospect of any in the efforts of Government effectually to "put down the system, they were afraid that the risk of transportation or "imprisonment for life was too great, and after a time they acquiesced "in our wishes. Those who had sons, with more or less reluctance, by "degrees, consented to labor themselves, in order to encourage their sons "to do the same, and under the instructions of a few masons, carpenters "and blacksmiths hired for the purpose, or selected from among the ordi- "nary convicts in Jail, many of them soon learnt these trades, and enabled "Captain Brown at a small cost to erect work-shops and store-rooms."

Captain Brown's first letter in the published Report, already alluded to, is dated the 4th January 1838, and refers to Colonel Sleeman's letter to Captain Reynolds on the subject already extracted from. At the time of Captain Brown's letter, he had already succeeded in forming the nucleus of the School, and many articles had been manufactured, so that in reality the commencement of the School of Industry should be dated from 1837. In Captain Brown's letter to Colonel Sleeman above quoted, he says—"I have much pleasure in informing you that I have "succeeded in establishing the manufacture of the under-mentioned "articles by the approvers of this place."

"Lac-dye, sealing-wax, blankets, sutringees, large and small dhoties "for prisoners, cloth for pantaloons of a very fine quality, Newar-tape of "sorts, cotton wicks for lamps, stockings, gloves, towels, &c."

"The old approvers in general are averse to any employment, and in "many cases have taunted those who have come forward as willing to "make themselves useful. These people I have kept as much at a dis- "tance as possible, and encouraged the others by various little indulgences, "by which means I have now got more candidates for employment than "I can at present, with my slender means, find work for."

"The children, with the exception of a very few, are kept back "by their parents, and I have been averse to using any force with them, "till I received your sanction, and my plans assumed an appearance of "success, which I have every reason to think they now do. I would "therefore, with due deference, suggest that I should be authorized to "use gentle force in the case of the parents refusing to allow their chil- "dren to work, and that in all such cases, any allowance granted for the "support of the family of an approver, in addition to what he is him- "self entitled to, should cease, and that should they still persist, the

"approver be reduced to one and a-half anna per diem, and finally remov-
"ed from his family for such time as might be thought proper."

"I do not anticipate any great resistance, but should I find any,
"I would wish to have it in my power to carry by gentle force what I
"could not accomplish by fair means. The leading characters in the
"opposition would be a few of the old approvers, who are too cunning
"to come to any open manifestations of their dislike to my plans; and
"when they find themselves in the field unsupported, they would see their
"folly and eventually give way, though with a bad grace."

"The greatest difficulty I have had to contend with has been the
"dislike they have, on a par with all natives, to learn any thing new. I
"first commenced my operations with prisoners, and have now, I am
"happy to say, in a great measure overcome all their prejudices on this
"point."

"In addition to the articles of manufacture before mentioned, I have
"allowed the approvers to make bricks and to dispose of them to the
"best advantage; and in many cases have assisted them by getting the
"Officers in Cantonments to purchase them. These people are all very
"fond of money, and when they see that they are to share in the profits
"of the manufacture, will cheerfully join in the work, which would not of
"course be too severely imposed upon them."

"The approvers are treated in the same manner as when you left Jub-
"bulpoor, *i. e.* are confined in the buildings adjacent to the Jail (lock-ups),
"and are only allowed to visit their families at meals. Those employed
"at the Manufactory, which is at present in my compound, are not con-
"fined during the day. To this in a great measure I attribute the increase
"of candidates for employment, and on no account do I allow any of
"them to be absent from the lock-up, except at meals, or at their work
"in the Manufactory."

"The allowance of the approvers, in all cases where they show an
"inclination to make themselves useful, will I trust be continued to them
"as heretofore; and I purpose that half of the profits of the sale of the
"articles manufactured should be paid to those employed, and the other
"half carried to the credit of Government."

"As I have not a shadow of doubt as to my success, I trust you will
"do me the favor to obtain for me an advance of Rupees 1,000, to be laid
"out in erecting a Manufactory, paying artificers employed to instruct in
"the various branches of manufacture and purchasing tools and materials.

"Hitherto I have carried on every thing at my own expense, and have "expended from my private funds a few hundred Rupees in forwarding "this object. I have now in store the produce of the manufactured arti- "cles, that, when sold, will realize a sum sufficient to cover the greater part "of the amount laid out by me, and I have every reason to believe that the "Rupees 1,000 requested as an advance would in due course be paid back "from the profits of the establishment. Several of the approvers have "requested that their children should be allowed, at the public expense, "a master to teach them to read and write. However desirable this "might at first sight appear to be, I do not see that any particular advan- "tage would be gained to the present generation, as none of them would "be employed, if known to be the offspring of Thugs, and with the little "learning they might pick up, they would become dissatisfied with their "condition. I do not think it would be safe to remove them (the chil- "dren) to any part of the country, unless under the eye of the Police, and "this of itself would ensure their being looked down upon, and in many "cases ill treated."

On the 19th February 1838, Colonel Sleeman having visited the Factory, expressed his thanks for Captain Brown's exertions and his congratulations on their successful result, and in anticipation of the sanction of Government, authorized an advance of Rupees 1000, re-payable in three years, towards carrying on the work. Previous to this a heavy loss had occurred, the work-house and a quantity of accumulated material having been destroyed by fire.

Colonel Sleeman at the same time gave stringent orders to enforce the attendance of the approvers' sons.

On the 21st February 1838, Colonel Sleeman writes to W. H. Macnaghten, Esquire, Secretary to the Government of India, as follows:—

"It has always been my anxious wish to have established at Jubbul- "poor, a Manufactory to give honest and safe employment to the approv- "ers here concentrated from all parts of India, and to afford their sons "the means of learning useful trades, which they would follow through "life and which would be likely to deprive them of all inclination to "follow the dreadful trade of their forefathers."

"The most extraordinary trait in the characters of these people is not "this, that they can look back upon all the murders that they have per- "petrated without any feelings of remorse, but that they can look forward "to the children, whom they love as tenderly as any men in the world can,

"following the same trade of murder, or being united in marriage to men "who follow that trade, without any such feelings of remorse. When I "have asked them, how they could cherish those children through infancy "and childhood, under the determination to make them murderers, or "to marry them to murderers, without any such feelings, the only obser- "vation they have ever made was, that formerly there was no danger of "their ever being hung or transported, but that now they would rather "they should learn some less dangerous trade."

"Accustomed as they are from their childhood to hear their fathers "and their friends talk, with pleasure and pride, of the expeditions in "which they have been engaged, there is always in their bosoms a desire "to follow the same course of life, unless it can be counteracted by some "other less dangerous and more attractive. To me it has, therefore, been "always an object to invite their fathers to work in some honest and "respectable trade, at the same time we teach the children. Seeing, as "they do, the little chance that a Thug now has of escaping punishment, "the fathers, who could never otherwise be made, voluntarily, to engage "in any manual labor, will now do so to afford an example to their sons, "and induce them to learn a trade, by which they may be enabled "honestly to subsist themselves, and to aid their mothers and sisters, "when they depend upon them."

"For the articles which Lieutenant Brown here teaches them to "manufacture, there will be always an effectual demand, because they are "suited to the immediate wants of the place and its vicinity, and are of a "quality which the people have hitherto been obliged to bring from "remote Districts. From personal observation I feel satisfied that the "object, we have so long had in view, will be attained, if Mr. Brown be "encouraged to continue his exertions by the support of Government in "the loan he proposes; and I have in consequence ventured to antici- "pate its sanction by the advance of Rupees 1,000 to be re-paid in "three years, without interest, in order to enable Mr. Brown to erect the "additional work-shops and store-rooms required, before the hot winds "set in. Hitherto he has employed his own private funds only; and one "of his Factories has been lately burnt down by accident."

"I have seen all the people at work, and examined the articles made "by them, and confess that his success has been beyond my hopes. I "have found the approvers, of all castes, working together cheerfully in "the same Manufactory; and though he had a good deal of difficulty to

" contend with at first, in the secret taunts of the older men of high " caste and influence, which made the more timid ashamed of their new " avocations, he has now nearly surmounted it all ; and I already find " among the most forward in the work, many who were, at first, the most " opposed to it."

On the 26th February, Colonel Sleeman again brought the subject under the consideration of Government as follows :—

"There is one point of much interest and importance that has caused, " and still causes me much anxiety. This is the Manufactory in which are " employed the Thug approvers from all parts of India (and their children,) " who are concentrated at Jubbulpoor, as their services under the District " Officers can be dispensed with. The great object is to teach the children " some trade that they shall willingly follow through life, and that must be " a trade that will yield them something more than the wages of common " uninstructed labor. In order that their sons may cheerfully learn such " trades, all the old men labor hard every day at the Manufactory formed " for them by Lieutenant Brown ; but he is absent for five months in the " year, and these people require, as an Overseer, a good practical European, " who has been brought up as an Overseer in England, who thoroughly " understands Mechanics and the use of simple machinery, such as we " can afford them the use of, and is required to make articles in every-day " demand."

"There are now above six hundred of these men sentenced to impri- " sonment for life in different parts of India—men whose ancestors have " been murderers for many generations, and whose children would for many " generations, in all probability, have become the same had they not " been withdrawn from the scene of their crimes. These men must all, by " degrees, be concentrated at Jubbulpoor, where, under judicious manage- " ment, they will soon, by their labor, be made to return to Government, " not only the outlay for their education and that of their children in " useful trades, but that for their daily subsistence."

The published Report of 1848 then relates that " a suitable person was " found in Mr. Williams, a Patrol in the Delhi Customs, who consented to " give up a situation of a higher salary, with a fair prospect of rising in " his department, to undertake this more congenial duty, on condition that " a house was provided for him, over and above the pay of Rupees " 150 a month. I had a garden at Jubbulpoor, and in this I caused a " small neat cottage to be built for him at small cost, with the " aid of the prisoners, who had now become expert at building under

" Captain Brown's supervision. His appointment was sanctioned in Mr. " Secretary Maddock's letter, dated the 2nd March 1840, in reply to mine " dated the 3rd February."

" The Officers of the Department for the Suppression of Thuggee, " in all parts of India, retained with them such only of their ap- " provers whose services were indispensable; all others were sent, " as their services could be dispensed with, to Jubbulpoor, the great " central point, where they were to be kept from evil doing, and made " useful if possible. Those who had served well, were permitted to " have their wives, mothers and children in a small walled village near the " Jail, built for the purpose, and to see them as often as was thought safe " and consistent with the object in view. Some of the older men who had " served long and faithfully, and had too many members of their family " around them to think of making any attempts at escape, were permitted " to sleep in this village, that they might assist in preserving order in the " little community. By degrees these elders gave security for a certain " number of others, who had deserved well by a long course of good con- " duct, and had their families in this village; and who pledged themselves " in the penalty of forfeiting all claims to further indulgence, and " returning to fetters and close confinement, that they would not abuse " the privilege, or make any attempt at escape."

" I should mention, that in the early part of our proceedings, many " arrested Thugs tendered their services for the pursuit of their associates " in the hope of finding opportunities of escape, after receiving a " conditional pardon for all past offences. When any of them absconded, " they were invariably pursued with all available means; and when " hunted down, left to undergo the full penalties of the Law. Not a man " escaped such pursuit long; and in consequence, few were, after a time, " found hardy enough to attempt it. The impression thus produced " enabled us to grant such indulgences as seemed indispensable to a cheer- " ful performance of the duties we required from them. The narratives of " such pursuits,—led by the male or female friends of those who had been " seized and sentenced, chiefly from information given by the fugitives, " over many hundred miles of country, and through the territories of vari- " ous native chiefs,—were, many of them, exceedingly interesting. These " people knew the homes of the most remote relations or friends of " the fugitives, and, in one disguise or another, led the pursuing party " to every one of them, till they had gratified their revenge by their " re-capture."

" Captain Brown at first contented himself with the manufacture of " trifling articles in every-day demand, giving to the prisoners small extra " allowances out of the profits. A loan was obtained from Government to " defray the cost of the buildings and the purchase of raw materials for " manufacture. The prisoners received from Government sufficient for food " and clothing, and the extra allowance went to their families in the village, " who eked out their little means by spinning or employing their children " in gathering and selling grass and wood in the town of Jubbulpoor, which " contains a population of about 24,000 persons. The profits aris- " ing from the sale of the articles manufactured were, at first, very " small, and had to be divided among great numbers; and it required " great tact and energy, on the part of Captain Brown and his Assistant, " Mr. Williams, to encourage the desponding and subdue the turbulent " spirits they had to deal with.

" Persons were obtained from Mirzapoor to teach them the art of " weaving carpets, and others from Futtehgurh to teach them that of " cutting out and making tents: in the former, the boys were employed, " and in the latter the men; and the Factory now began to thrive. Both " carpets and tents found a ready sale; and men and boys began to think " their share of the profits a valuable acquisition. The boys were delighted " to feel that they had now learnt trades that would, with common " industry, ensure them a comfortable subsistence for life; and the men " to see that their sons were no longer in danger of taking to the old trade, " and running the risk of being sent to the 'black water.' The women " too, and their daughters, shared in the happy change of feeling; for they " too could add to the general stock of the family comforts by spinning " the thread required for the tents, since the cloth was now wove and " stamped at the Factory. The poles were turned and painted, the ropes " and all other materials required for the tents were also prepared by the " prisoners.

" Major Ramsay succeeded Captain Brown in the charge of the Fac- " tory in January 1842 and Captain J. Sleeman succeeded Major Ramsay " in 1845. Mr. Williams has remained the able Overseer; and the Factory " has continued to succeed beyond my most sanguine hopes. I visited " it in the beginning of 1843, in the end of 1844, and for the last time " in January 1848. At first I found the Thugs anxious to gratify the " curiosity of the young Officers, who accompanied me, in talking of their " old trade, and its scenes and excitements, and in showing them how

" they had performed its various operations. At the second visit, I found " that they were not anxious to do all this, though willing, when encou- " raged; but at the last visit, I found that they were averse to answer any " questions on this subject, and quite ashamed to look back upon the " events and incidents of their past lives. They no longer talked among " themselves of the scenes of early days. Their sons, who had never seen " any of these scenes and incidents, were now become able, industrious, " well behaved and well-dressed young men, who felt no interest in what " their fathers could tell them of a trade so abhorrent to the rest of man- " kind, and were evidently ashamed to see their fathers asked any ques- " tions about it by the European visitors. All had learnt to read and " write, as well as to work honestly for their bread at respectable trades; " and were proud at the thought of their independent condition. Mr. " Williams, to amuse them in their leisure hours, had fitted up a little " theatre and got some English after-pieces translated into the native lan- " guage. The elder sons of the Thugs were taught parts in these after- " pieces, and performed them exceedingly well. 'The Forty Thieves' was " performed for the amusement of the gentlemen and ladies at the " Station during my last visit.

"During the year 1847 the sum of Rupees 4,953 had been paid in " wages to the Thug approvers and their sons for work done at the Fac- " tory, and Rupees 2,396 to their wives, for thread spun by them in their " houses in the village. Over and above this, their wives and daughters " carry a deal of fine thread to the town for sale, as it is only the coarse " thread that is required at the Factory for cloth for tents. Besides the " sons of Thugs employed within the Factory, many others earn their " bread by working at home in the village, or town, by conveying the " goods of the Factory to market, or to places whence the orders come, " or entering into service, as sipahees, burkundazes, or domestics, all " earning from Rupees 4 to 6 a month.

"There were 543 Thugs and their sons employed in working up raw " materials into finished work in tents, carpets, &c., in the end of 1847; " and 307 in different duties about the Factory and Station, highly use- " ful, but not adding to the value in exchange of the finished work and " return of profits;—some as guards, some as brickmakers and brick- " layers, &c., in forming new and repairing old work-shops, lines, public " buildings;—others employed in keeping the Factory, Jail, Hospital, " School-house, Infirmary, drains, tanks, &c. clean—all having some

" little allowance from the profits of the Factory to encourage exertion. " During 1847, there had been manufactured and despatched from the " Factory 131 tents of different sizes; 3,324 yards of Kidderminster " carpeting; 46 woollen carpets of sizes, besides large quantities of table " cloths, towels, &c. of good quality; plaids, checks, &c., altogether realizing " the sum of Rupees 35,230-13-8. Among the outlays must be in- " cluded the wages of teachers of the different trades from distant " parts, which is now every day diminishing, while the returns are " increasing."

"Some of the most expert and industrious young men, who have been " in the Factory from boyhood, and were never engaged in Thuggee, " have now permission to set up independent establishments for them- " selves in the town of Jubbulpoor, with the privilege of selling the pro- " duce of their labor to whom they please; and as land produce, and all " the materials they require, are at all times cheap in the Valley of the " Nerbudda, the articles they turn out are likely to find a ready sale, in " spite of the disadvantage of being so far removed from any navi- " gable river. If the plan succeeds, as I hope it will, they will add " much to the industry and population of the town, while they will form " the foundation of a large manufacturing community, out of people " who must, but for the energetic measures adopted by a benevolent " Government for the suppression of this terrible evil, have been mur- " derers by hereditary profession, under the horrible delusion that the " Deity sanctioned and pre-destined their trade. I will here give a copy " of my last Report* to Government on the result of this experiment, " dated the 3rd February 1848, with a table of the persons then em- " ployed at the Factory, drawn up for me during my stay at Jub- " bulpoor, by Mr. Williams. The conditionally pardoned offenders of " the different classes of Dacoits by hereditary profession, for whom no " suitable employment can be found in any of our Police or other " public establishment, will, as their services can be dispensed with " by the Officers under whom they are now employed, be concen- " trated in the same manner at the Jubbulpoor Factory. Many of " them are too old and infirm for active service in Police or other " establishments, and many from their conduct and habits undeserving " of it."

* Appendix No. 1.

In the Report above alluded to, dated the 3rd February 1848, Colonel Sleeman writes to the Secretary to the Government of India, transmitting an abstract of the Account of the School of Industry, for submission to the Right Hon'ble the Governor General in Council, with a Memorandum of the outstanding debts, amounting to Rupees 14,511-11-7½ on the 1st January 1848, and the stock, amounting to Rupees 6,341-6-6½ on the same date. He says :—

"Of the whole advances made by Government for the establishment of "this School, in buildings, stock; &c., only Rupees 2,763-6-9 remain due, "while the whole buildings themselves are estimated at Rupees 7,323-2-8. "Two more large working wards are now being added, and the work "is done by the prisoners alone, so that little or no outlay is required."

"The carpets now made from English patterns lately received are "considered to be the best in India ; and others of a lighter kind, and of "elegant patterns, lately received out from Kidderminster, are being "commenced upon, and will be found so admirably adapted to this "climate, that a very large sale may be calculated upon, as well among "Native families of rank as among Europeans."

"I inspected this establishment only a few days ago, and nothing "could be more gratifying than the state in which I found it, showing "that the object which Government had in view, had been carried "out beyond my most sanguine hopes. A great number of the sons "of Thugs are amongst the most expert of the members, and can earn "a very handsome subsistence by their labor as such. These will, by "degrees, become independent of instruction and aid in the Factory; "and instead of retaining them upon the establishment as journey-"men or day-laborers, they will be allowed to set up for themselves "in the town of Jubbulpoor and to sell their finished work privately, or "to the Factory, when of the approved quality, which the Factory turns "out. A small capital will be advanced to the head-men of all such small "establishments to set them up, to be refunded as their finished work is "supplied or sold. Jubbulpoor will thus become a manufacturing town ; "and as the fathers and other male relations of these boys, who spent the "early part of their career in the murder of their fellow-men, die off, as "they are now fast doing, the recollection of their horrible trade will cease "to excite any other feeling than such as that which converts to "a new creed feel for the errors of their forefathers ; and one of "the best signs I saw at the School of Industry on this visit was,

" the dislike which all seemed to feel, on being questioned by the " Officers who accompanied me, on any thing about the trade of " Thuggee."

" On former occasions they seemed to answer all such questions with " pride and pleasure, as it gave them opportunities of displaying their skill " and descanting on the wealth and rank they had acquired in the trade ; " but so many of their old associates have now died off, and so many of " their sons and brothers have acquired respectability and independent " competence, by their skill and industry in manufactures, that they " find no one willing to listen ; and the oldest and most hardened " seems to be ashamed to recollect what he and his ancestors had " been."

" As the Factory is now in so thriving a state, and so independent of " any further contributions from Government, I must solicit the favorable " consideration of His Lordship in Council to a proposal made to me by " Mr. Williams, the Overseer, during this my visit. It is to have a young " man invited out from the town of Kidderminster, in the county of Wor- " cester, one of good character and sober habits, who has served his full " apprenticeship in that town in the trade of making carpets, known in the " trade by the name of ' Brussels Carpeting,"—that he shall be promised " a salary of £60 a year, or Rupees 60 a month, with a prospect of " increase after a period of good service—that he shall, like the Overseer, " have a house built for him by the prisoners—that his passage shall be " paid to India and to Jubbulpoor, and that his salary shall commence " from the day he lands—that he have to bring with him two looms for " the manufacture of the above-named carpeting, with all the apparatus " required for the same, so that he may be prepared to commence work " immediately after his arrival—that the said two looms be made with " all the latest improvements, and with wood that is likely to resist the " effects of climate."

" As the welfare of the Factory now depends so much upon the pre- " sence of one man, Mr. Williams, who may be invited away, or obliged to " go from ill health, I beg most earnestly to solicit the favorable consider- " ation of His Lordship in Council to this proposal. The Factory will not " only be able to bear the cost, but will benefit much by the acquisition in " its out-turn ; and be better able to bear the increased number of pupils, " which it has to expect in the professional Dacoits, who have been or are " being seized, and their sons."

" I may here insert the following Memorandum drawn from the Ac-
" counts of the Factory :—

" Liabilities on the 1st January 1842, Rs.,	9,067	7	2
" Total value of stock-in-trade, outstanding debts, buildings, &c., on the same date, -	7,859	14	0
" Against the Factory, - - -	1,207	9	2
" Liabilities on the 1st January 1848, -	2,893	6	9
" Value of fixed and floating stock and outstanding recoverable balances on that date, - - - - - - -	28,176	4	10
" Balance in favor of the Factory, 1st January 1848, - - - Rs.,	25,282	14	1

" Should the proposal for an Assistant to Mr. Williams receive the sanc-
" tion of Government, orders will be sent Home for the best young man
" procurable at Kidderminster, on the terms offered, being sent out with
" the machinery required, so that he may come to Jubbulpoor during the
" next cold season, and commence work immediately."

" I should mention that the chief cause of the large outstanding
" balance arises from the difficulty of obtaining remittances from the
" Bombay and Madras Presidencies, whence the chief orders for goods
" come."

I do not find any thing of particular interest in the Reports on the School from the early part of 1848 to 1851. The Half-yearly Accounts were sent to Government, showing a regular increase in its prosperity, but little comment was made on the working or system pursued.

On the 22nd January 1851, Captain Sleeman addressed the Secretary to the Governor General, submitting a Statement of the Accounts of the School of Industry for the preceding six months, with the following remarks :—

" The demand for goods manufactured in the Institution is still on
" the increase, and during the last half-year, the following articles have
" been disposed of :—

" Tents of various sizes, - - - - - - -		198
" Table Cloths ditto, - - - - - - - -		201
" Woollen Carpets ditto, - - - - - -		39
" Kidderminster Carpeting, - - - - -	yards	1,452

" Sutringees, - - - - - - - - -				15
" Towels and Napkins, - - - - - -	dozens			275
" Horse Clothing and Plaids, - - - - -	pieces			174
" The sale value of those articles amounts to Co.'s Rs.		30,903	0	0
" Out of which has been paid for raw materials, - - - - - - - -	„	19,903	7	11½
" In adjustment of debt due to Government for advances, - - - - -	„	4,763	6	9.
" And to hired workmen, approvers and their sons for work done, - - - -	„	5,034	11	1½
" Leaving a balance in hand of - - Co.'s Rs.		2,402	14	11½

" with which to commence the new year."

" Major Graham, who has superintended the working of the In-
" stitution during the whole of the period under report, speaks in high
" terms of the zeal and assiduity of Mr. Williams, the Overseer, to whose
" untiring industry and constant attention the present acknowledged skill
" of the workmen, and the cheerful readiness with which the work in every
" department is carried on, must be mainly attributed.

" He also reports most satisfactorily of the conduct of all connected
" with the Factory, and states that it has only been found necessary to have
" recourse to punishment by fine or temporary deprivation of indulgences
" in two or three instances during the half-year.

" There are at present fifty boys, sons of Thug approvers, working as
" carpet weavers, independent of the Institution, while some hundreds
" more, sons of Dacoit approvers, who were too idle to learn a trade, are now
" employed by a native merchant in the preparation of lac-dye and other
" country produce for the Calcutta market; and as this employment is
" likely to continue, and at the same time keeps them under the eye
" of the Overseer and Superintendent, these boys have been encouraged
" to undertake it.

" I have set on foot enquiries to ascertain the rates at which Kooloo
" wool of a good quality and cotton can be supplied at Meerut, with a view
" —should the project appear feasible—of submitting for His Lordship's
" consideration and sanction a plan for locating some of the Thug boys, who
" now sell the produce of their looms to the Jubbulpoor Factory,
" as carpet weavers under the superintendence of Major Graham at
" Meerut.

"It is expected that a good market for woollen carpets, of superior "quality, woollen horse clothing, blankets and plaids, would be found in "the several Hill Stations, if such articles could be supplied at cheaper "rates than the heavy expense of land carriage from Jubbulpoor now "admits of, while a great object would be gained in removing the boys "from the society of their parents and relations and beyond the influence "of cliqueism, which still exists to a considerable extent, and operates to "prevent their forming connexions among, or associating freely with, "other classes of society."

On the 29th April following, Captain Sleeman, having completed his enquiries regarding the prospects of remunerative trade to the boys, in case of establishing a Factory at Meerut, under the superintendence of Major Graham, writes to the Secretary to Government as follows:—

"In my letter to your address, No. 3, of the 22nd January last, sub- "mitting the Half-yearly Accounts of the Jubbulpoor School of Industry, "I mentioned a project for the location at Meerut of some of the sons of "Thug approvers as woollen carpet and table linen weavers, and, with "reference to that subject, I have now the honor to report, for the infor- "mation of the Most Noble the Governor General, that the prices of raw "material in that part of India are likely to afford a fair remunerative "profit on the manufactured articles, for which the Meerut bazars and "neighbouring Hill Stations will furnish a ready market; and should His "Lordship be pleased to sanction the measure, I will arrange to despatch "thirty boys, with their looms, to Meerut, where, under the general supervi- "sion of Major Graham, Superintendent, North-Western Provinces, they "will have every opportunity of opening a lucrative business, independent "of the Jubbulpoor Factory, and by freely mixing with different classes "of people will soon lose that feeling of clanship which their stay among "relatives and friends at Jubbulpoor is calculated to preserve."

On the 17th January 1852, Captain Sleeman again submits to Government the Abstract Statement of the operations of the Jubbulpoor School of Industry, showing that during the year 1851 the following articles had been manufactured and disposed of:—

Tents of sizes,		187
Woollen Carpets, &c.,		60
Kidderminster Carpeting,	yards	1,464
Sutringees of sizes,		13
Table Cloths,		237

Towels and Napkins,	dozens	224
Horse Clothing and Check,	pieces	47

He adds :—" The amount realized on sales during the year is Rupees " 30,605-8-3. The amount expended in paid labor and purchase of raw " materials Rupees 30,375-5-8, and after deducting contingent expenses " for the enlargement and repair of Factory buildings, and thoroughly " draining and adding to the accommodations in the approvers' lines, the " operations of the year leave a profit of Rupees 6,730-6-5¾."

" I have limited the prices of articles to the lowest remunerative scale, " considering that by thus insuring a ready sale and constant employment " for the operations, I was carrying out the benevolent intentions of Go- " vernment towards the Institution, and the result has been a very gene- " ral demand for Jubbulpoor manufactures throughout India."

" During the last six months goods have been despatched to the most " distant points of the three Presidencies, *viz.* Madras, Peshawur, and " Kurrachee, while a considerable order for tents has just been received " from Bagdad."

" Major Graham reports favorably of the thirty boys, sons of Thug " approvers, who were sent to Meerut in April last. They are now in full " work and will soon be in a position to repay the sum of Rupees 1,000, " advanced from the funds of the Factory for the expenses of their " march to Meerut and purchase of raw materials to commence on."

" One hundred and twenty boys of the same class are still employed " in the Factory, and these will in a year or two have attained sufficient " skill in their several trades to insure an honest livelihood independent of " the Institution, while about forty more, who want the intelligence and " industry required to learn a trade, find constant employment in carry- " ing the light articles manufactured at Jubbulpoor to all points of " India."

" From approvers of the Mooltan Bunjarah class of Dacoits, we have " lately succeeded in turning out good rope-makers and leather-workers, " and from the Berriahs, a still ruder tribe, tent tailors and weavers; but " the Bhudducks continue to baffle all efforts to teach them any particular " trade or calling. They profess great contempt for all artisans, and " prefer seeing their sons employed as day-laborers in the Lac Manu- " factory, or even begging in the bazar, to learning a trade, which they " consider derogatory to them as 'men of sword and spear.' Fortunately " there are but few Bhudducks at Jubbulpoor, and they do not increase in

" an equal ratio with the other classes of Dacoits, who take more naturally " to the habits of civilized life."

" Mr. Williams, the Overseer of the School of Industry, has a share in " the Lac-dye Manufactory lately established at Jubbulpoor, and which " affords employment to the Bhudduck children, and a great many of the " wives and widows of all classes of prisoners ; but he does not allow his " private business to interfere with the duties of the Factory, in which " his zeal and industry continue to merit my warmest approbation."

In 1853, a Brussels Carpet Manufacturer was brought out from England at a cost of Rupees 2,478-11-0, including the price of a Brussels loom, which expense was entirely defrayed from the funds of the Institution. The loom is now in full work, and it is hoped that this kind of carpeting will find a ready sale.

The next Report is dated the 27th January 1854, and submits for the information of the Most Noble the Governor General in Council Memorandum of the Accounts, from 1st January to 31st December 1853. The Memorandum shows outstanding debts amounting to Rupees 37,508, and the stock in building, tools, raw materials and manufactured goods valued at Rupees 25,735-13-9¼.

The Report states, that " the following articles had been manufactured " and disposed of during the year :—

" Tents of sizes, - - - - - - - -		251
" Woollen Carpets ditto, - - - - - -		70
" Table Cloths, - - - - - - -		209
" Tables and Napkins, - - - -	dozens	321
" Kidderminster Carpeting, - - -	yards	1,419¼
" Horse Clothing and Check, - - -	pieces	34

" The sum of Rupees 46,349-15-0 has been expended during the year " in the Town of Jubbulpoor and its neighborhood in the purchase of " raw material, &c. ; and after paying for the maintenance and clothing " of 382 prisoners, the profits upon the year's operations amount to " Rupees 8,600-6-6¾."

" To enable His Lordship in Council to judge of the progressive pros- " perity of the Institution, I annex abstract Memoranda of the Accounts* " from the year 1845, when I took charge, to the end of 1853 inclusive ; " and as the business is now well established, and the excellent quality of

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* Appendix No. 5.

"the articles manufactured has become generally known and appreciated, "I may safely predict, that in a very few years the Jubbulpoor School of "Industry will be in a condition to relieve the State from all charge on "account of the pay of approvers, &c., and become in fact a self-main- "taining Institution."

"The annexed Table No. 3* exhibits the number and various occupa- "tions of the approvers, prisoners, and sons of the former, daily occu- "pied in the Factory, and the number and class of young men who, from "idleness or want of capacity, have failed to learn trades and are depen- "dent upon casual labor for support."

"I have succeeded within the year in obtaining situations in the "Police of Districts in the North-Western Provinces, and as private ser- "vants, for about thirty young men of this class, and continue to receive "very satisfactory reports of their conduct."

"In proof of their individual energy and trustworthiness, I may men- "tion that the son of a Thug approver has just returned from Australia, "whither he was sent by Mr. Williams, previous to his departure for Eng- "land, in sole charge of a consignment of small tents and other goods "sent on a private speculation, and that he has performed this novel and "onerous duty in a manner very satisfactory to his employer."

"I am now prepared to carry out the arrangement alluded to in the "4th para. of my Despatch to the Government of India, dated the 29th "July last, copy of which is also annexed, and only wait the sanction of "His Lordship in Council to despatch some 50 operatives, sons of ap- "provers, to Belgaum, in the Deccan, where, under the supervision of "Captain Hervey, Assistant General Superintendent, they will exercise "the trades learnt in the Factory, and maintain themselves and families "in honest independence."

"Similar arrangements will be repeated as boys become sufficiently "skilful in the trades they adopt, and in a few years, all necessity for "supervision will cease, and these manufacturers losing their feelings of "clanship, will amalgamate with the mass of the people."

"Of the 543 approvers now present at Jubbulpoor, more than 100 "are too old and decrepit to work, the rest are daily employed in the "School and earn for themselves a large portion of their monthly "pay."

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* Appendix No. 2.

" Under a system of strict surveillance, these men are orderly and " industrious ; they see their children learning trades by which they will be " enabled to maintain themselves and families, and frequently express to " me the satisfaction they feel in knowing that by these means they will " be saved from the temptation to commit crime and become honest and " useful members of society."

" The approvers no longer boast of the exploits of other days, and their " sons, who have never shared in them, feel no interest in the details of a " trade, which they see, from its punishment, is abhorrent to the rest of " mankind."

" I have the satisfaction to be able to report most favorably of the " conduct of all connected with the Institution during the past year ; only " two cases of petty theft have occurred within that period, and in both " instances the offenders were convicted and punished with stripes."

" With the inhabitants of Jubbulpoor, the Institution is naturally very " popular, as the means of circulating among them several thousand " Rupees monthly, and they truly attribute to it a measure of the pros- " perity which is evinced by the rapid increase of the Town, both in size " and population."

" Mr. Williams, the Overseer, who was permitted to visit England for " one year, from the 14th of March last, has just reported his return to " Calcutta, and may be expected at Jubbulpoor about the middle of " next month."

" He has employed a large portion of his time in visiting all the best " Manufactories and Jails famous for their discipline, and has obtained a " great deal of information, which cannot fail to be extremely beneficial to " the Institution over which he presides."

The foregoing official information regarding the School is so full, that little is left for me to add on the subject.

The articles now manufactured are not of such variety as when the School was first established, many articles formerly made having been found too limited in demand to make their manufacture remunerative. The principal articles now made are, as may be gathered from the later Reports, tents of every form and description, carpets, woollen and cotton, of great variety, table cloths, towels and napkins.

In the manufacture of the tents, great variety of work is required. The whole of the wood-work, iron-work, ropes, a portion of the thread and cloth, are made in the Factory, the chintz is all stamped, and the

woollen and cotton thread is all dyed in the Institution, which contains a carpenter's shed with turning lathes, blacksmith's sheds, sheds for dyeing and for printing chintzes, with large sheds and rooms in which tents and carpets are made up, thread is spun, gunny or strong hemp matting, chicks for tent doors, and other articles are made up.

Much cotton thread is given out in the surrounding neighborhood to be made into dosoottee and other cloth for the tents, there not being sufficient workmen in the Factory to make up the large quantity of cloth that is required for use, and large quantities of tent cloth are also purchased in the Districts around.

There can be little doubt that the large expenditure caused by the School of Industry has been very advantageous to the town of Jubbulpoor, which has of late years increased rapidly in population.

Lists of the prisoners, approvers and their sons, employed in the Factory on 1st January 1848, and at the present time, are appended, together with a Statement of the Accounts of the Institution on the 1st January 1848 and 1st January 1854, and a Return showing the progressive prosperity of the School from 1845 to 1854.

I have the honor to be, &c.,

(Signed) G. R. EDWARDS, *Captain,*
Offg. Genl. Supdt. for the Suppression of Thuggee and Dacoitee.

JUBBULPOOR;
Genl. Supt.'s Office,
The 23rd May 1854.

APPENDICES.

(COPIES.)

Appendix No. 1.

Memorandum of the manner in which the Approvers, their Sons, and the Prisoners are employed at Jubbulpoor.

Jubbulpoor, 4th February 1848.

Description of Employment.	Approvers.	Sons.	Prisoners.	Hired Teachers.	Total.
Tents.—Employed in bowing and cleaning the cotton, ...	2	0	5	0	7
Ditto in spinning the cotton into thread, ...	13	0	5	0	18
Ditto in opening thread and doubling it for weaving, ...	17	0	2	0	19
Ditto in weaving of tent cloth, ...	10	40	10	0	60
Ditto in washing, bleaching, and kyanizing,..	9	0	0	0	9
Ditto in printing of chintz for lining of tents,	5	8	3	0	16
Ditto in making of cotton ropes for tents, ...	12	0	0	0	12
Ditto in making newar, chicks, fringe, &c.,...	20	0	1	0	21
Ditto in opening and preparing thread for dyeing for the carpets, ...	17	0	0	0	17
Ditto in making the tents and other cotton carpets, ...	44	0	14	0	58
Ditto in turning and lacquering tent poles,...	0	3	6	1	10
Ditto in sewing and making the tent bags,...	0	0	4	0	4
Ditto in making the iron-work, as also other articles required in the blacksmith's line, ...	0	3	11	2	16
Ditto in sewing the leather-work for the tents,	0	0	0	8	8
Ditto in making tape for binding doors and horse-clothing, ...	8	19	0	0	27
Ditto in straightening and preparing the bamboos for kunauts, ...	2	0	0	0	2
Ditto in sewing the tents, ...	45	10	5	2	62
Table Linen.—Employed in weaving table cloths and napkins,...	4	4	4	0	12
Woollen Carpets.—Pickers and cleaners of wool preparatory to dyeing, ...	19	0	8	0	27
Dyers for this carpeting, the Kidderminster and Sutringee, ...	0	0	14	0	14
Ditto in the manufacture of the carpeting, ...	3	44	0	0	47
Kidderminster Carpet.—Employed in twisting the thread required for this purpose, ...	27	0	0	0	27
Ditto in spinning a kind of cord worked up inside, ...	8	0	6	0	14
Carried forward, ...	265	131	98	13	507

Description of Employment.	Approvers.	Sons.	Prisoners.	Hired Teachers.	Total.
Brought forward, ...	265	131	98	13	507
Kidderminster Carpet.—Employed in manufacturing the Carpeting,...	10	12	0	0	22
Gun Wadding.—Fetters of gun wadding, felt hats, &c., ...	0	0	4	0	4
Paper.—Employed in making paper, ...	9	0	1	0	10
Unprofitable Labor.—Employed as bheestees, sweepers and wood-cutters, ...	2	0	6	0	8
Ditto as bricklayers at Government works, ...	17	0	0	0	17
Ditto brick-making and bricklayers' laborers, ...	37	0	13	0	50
Ditto carpenter's shop for the repair of tools, buildings, &c., ...	2	10	2	0	14
Ditto as sawyers, ...	4	0	0	0	4
Ditto as cart-drivers, weighmen, &c., ...	5	0	2	0	7
Ditto as second teacher in the School, ...	1	0	0	0	1
Ditto as guards at the gate of the Factory, ...	29	0	0	0	29
In the Lines and Jail from old age,	50	0	18	0	68
Under punishment on the roads,...	13	0	39	0	52
Residing in the city 2, in the Hospital 2, ...	4	0	0	2	6
Learning to read and write in the School, ...	0	39	0	0	39
On command with Captain Sleeman, Superintendent,...	12	0	0	0	12
Total employed,... ...	460	192	183	15	850

(Signed) J. B. WILLIAMS,

Overseer.

Appendix No. 2.

Memorandum of the manner in which the Approvers, their Sons, and the Prisoners are employed at Jubbulpoor.

Jubbulpoor, 15th May 1854.

Description of Employment.	Approvers.	Sons.	Prisoners.	Hired Teachers.	Total.
Tents.—Employed in opening thread for the making of tape, ropes, carpets, &c., ...	30	0	3	0	33
Ditto in weaving tent cloth, ...	6	11	2	0	19
Ditto in washing, bleaching and kyanizing,...	16	0	0	1	17
Ditto in printing off chintz for lining of tents,	4	15	13	0	32
Ditto in making cotton ropes for tents, ...	12	0	0	0	12
Ditto in making newar, chicks, fringe, &c.,...	53	3	0	0	56
Ditto in opening and preparing thread for dyeing for the carpets, ...	5	0	4	0	9
Ditto in making the tents and other cotton carpets, ...	41	0	6	0	47
Ditto in turning and lacquering tent poles, ...	1	7	18	0	26
Ditto in sewing and making the tent bags, ...	6	0	33	0	39
Ditto in making the iron-work, as also the other articles required in the blacksmith's line,...	1	5	18	0	24
Ditto in sewing the leather-work for the tents,	19	2	15	5	41
Ditto in making tape for binding doors and horse clothing, ...	3	0	0	0	3
Ditto in straightening and preparing the bamboos for kunauts, ...	1	0	3	0	4
Ditto in sewing the tents, ...	75	27	8	1	111
Table Linen.—Employed in weaving table cloths and napkins, ...	0	40	0	0	40
Woollen Carpets.—Pickers and cleaners of wool preparatory to dyeing, ...	6	0	16	0	22
Dyers for this carpeting, the Kidderminster and Sutringee, ...	0	2	18	0	20
Employed in the manufacture of the carpeting, ...	2	115	0	0	117
Kidderminster Carpets.—Employed in twisting the thread required for this purpose, ...	6	0	0	0	6
Ditto in spinning a kind of cord worked up inside, ...	0	0	1	0	1
Ditto in manufacturing the carpeting, ...	4	0	1	1	6
Unprofitable Labor.—Employed as bheestees, sweepers and wood-cutters, ...	7	0	2	0	9
Ditto as bricklayers at Government works, ...	22	0	0	0	22
Carried forward, ...	320	227	161	8	716

Description of Employment.	Approvers.	Sons.	Prisoners.	Hired Teachers.	Total.
Brought forward, ...	320	227	161	8	716
Unprofitable Labor.—Employed in carpenter's shop for the repairs of tools, buildings, &c., ...	1	8	0	6	15
Ditto brick-making and bricklayers' laborers, ...	61	0	0	0	61
Ditto as sawyers, ...	6	0	2	0	8
Ditto as cart-drivers, weighmen, &c., ...	6	0	0	0	6
Ditto as second teacher in the School, ...	0	1	0	0	1
Ditto as guards at the gates of the Factory, ...	40	0	3	0	43
In the Lines and Jail from old age,	76	0	27	0	103
Under punishment on the roads,...	15	0	34	0	49
Residing in the city, ...	2	0	0	0	2
Learning to read and write in the School, ...	0	32	0	1	33
Residing in Hospital, ...	6	0	4	1	11
Total employed,... ...	533	268	231	16	1048

(Signed) J. B. WILLIAMS,

Overseer.

Appendix No. 3.

Accounts of the Jubbulpoor School of Industry on the 1st January 1848.

Due to Government on the 1st January 1848, ...	2,763	6	9	Fixed on trade in buildings, tools, and Overseer's House, ...	7,323	2	8		
Due to individuals on the 1st January 1848, ...	130	0	0	Live-stock, in raw materials, manufactured goods, &c., ...	6,341	6	6½		
				Outstanding debts on the 1st January 1848, ...	14,511	11	7½	28,176	4	10
Total Liabilities, Rs. ...	2,893	6	9	Total value of stock in hand, Rs. ...				28,176	4	10

ABSTRACT.

Paid within half-year for raw materials, ...	12,264	10	0½				In hand on the 1st July 1847, ...			
Ditto ditto to approvers and their sons, ..	2,600	1	8½						523	0 10
Ditto ditto to hired workmen, ...	622	4	10				Received during the half-year for goods sold, advance, &c. &c., ...			
				15,487	0	6½			16,372	6 3½
Overseer's commission within half-year, ...	483	11	4							
School Establishments, ...	78	0	0							
Chuprassies, ...	87	12	10							
Refunded to the Estate of the late Captain Paton, ...	150	0	0							
				799	8	2				
In hand on the 1st Jan. 1848, ...				608	14	5				
Total, Co.'s Rs. ...				16,895	7	1½	Total, Co.'s Rs. ...		16,895	7 1½

(Signed) J. B. WILLIAMS,
Overseer.

Appendix No. 4.

Annual Account of the Jubbulpoor School of Industry from 1st *January to* 31st *December* 1853.

Jubbulpoor, the 1st *January* 1854.

*Due to Government on the 1st January 1853, ..	0	0	0				Fixed stock-in-trades, tools and buildings within the last year, ..			11,497	6	2½			
Paid within the year, ..	0	0	0				Expended in addition within the year, ..			50	0	0			
Due to Government on the 1st January 1854, ..	0	0	0										11,547	6	2½
Due to individuals within the year,	855	0	0				Live-stock in raw materials and manufactured goods on the 1st January 1854, ..			14 188	7	6½			
Repaid in goods within the year, ..	858	0	0				Outstanding debts, including sums available on the 1st January 1854, ..			37,508	0	7½			
Due to individuals on the 1st January 1854, ..	....	..	..	100	0	0	Advanced to late Captain McKintosh, of Neemuch, for the purchase of wool, ..			400	0	0			
Due to the General Superintendent's Office, ..	....	..	..	1,000	0	0	Advanced for doosootee, sakoo-wood and bamboos, ..			400	0	0			
Due to the workmen on the 1st January 1854, ..	....	..	..	110	2	1½							52,496	8	2
							Balance in hand on the 1st January 1854, ..			0	0	0	0	0	0
							SUMS AVAILABLE.								
							In hand of Messrs. Allan, Deffell and Co., ..	813	9 0						
							Ditto of Messrs. Remington and Co., ..	409	0 5						
							Ditto of Messrs. Binny and Co., ..	737	14 2						
							Ditto of the Sub-Treasurer of Bombay, ..	6,000	0 0						
								7,960	7 7						
Total Liabilities, Rs., ..				1210	2	1½	Profit during the year, ... 8600 6 6½			Total Assets, Rs., ..			64,043	14	4½

(Singed) G. DELVIN,
Officiating Overseer.

Signed) J. SLEEMAN,
General Superintendent.

ABSTRACT.

Expended within the year of raw materials, ...	44,029-14-3¾							In hand on the 1st January 1853,		4,167	14	6⅓		
Diet of prisoners within the year,	2,320-0-8¼	46,349	15	0				Received from goods sold during the year, ...		51,958	12	0¾		
Paid within the year to approvers and their sons, ...		7,142	3	2									56,126	10 7¼
Ditto ditto to hired workmen, ...		1,163	15	0⅓				Borrowed from the General Superintendent's Treasury within the year, ...					5,223	11 0
					54,656	1	2½							
Overseer's commission within the year, ...		1,493	0	6½									61,350	5 7¼
Paid to Mr. Francis North, Brussels carpet weaver, ...		499	11	0										
Do. to Mr. Henry Davis within the year, ...		210	0	0				Balance due to the workmen on the 1st January 1854, ...					110	2 1¾
Do. to Baboo Hurchunder Banoorjee within the year, ...		40	0	0										
Do. to Chuprassies, &c. within the year, ...		218	0	0										
Paid to School Moonshee, within the year, ...		120	0	0										
					2,580	11	6½							
Refunded to the General Superintendent's Treasury, ...		... ...	...	...	4,223	11	0							
Total, Co.'s Rs. ...					61,460	7	9	Total, Co.'s Rs. ...					61,460	7 9

(Signed) G. DELVIN,
Officiating Overseer.

(Signed) J. SLEEMAN,
General Superintendent.

Appendix No. 5.

Abstract of the Annual Accounts of the Jubbulpoor School of Industry from the year 1845 *to* 1853 *inclusive.*

Jubbulpoor, 2nd January 1854.

Date.	Total Liabilities.			Total Assets.			Balance to Credit.			Actual profit during the year.			Remarks.
1st January 1845, ...	4,763	6	9	13,137	15	5	8,374	8	8	4,049	15	4½	
„ „ 1846, ...	3,763	6	9	16,187	14	9½	12,424	8	0½				
„ „ 1847, ...	4,784	12	9	23,059	7	10¼	18,274	11	1¼	5,850	3	0¾	
„ „ 1848, ...	2,893	6	9	28,176	4	10	25,282	14	1	7,008	3	0¼	
„ „ 1849, ...	3,906	6	9	26,684	14	0	32,778	7	3	7,495	9	2	
„ „ 1850, ...	5,621	0	10¼	42,304	2	9¼	38,683	1	11¼	5,904	10	8¼	
„ „ 1851, ...	2,090	0	0	44,814	7	3¼	42,724	7	3¼	4,041	5	4	
„ „ 1852, ...	421	12	6	49,874	10	3	49,452	13	9	6,728	6	5¾	
„ „ 1853, ...	2,244	13	9	56,478	3	5¼	54,234	5	8¼	4,780	7	11¼	
„ „ 1854, ...	1,210	2	1¾	64,043	14	4¾	62,833	12	3	8,600	6	6¾	
Total, ...	... ...	...	...	... ...	...	...	... ...	...	...	54,459	3	7½	

(Signed) G. DELVIN,
Officiating Overseer.

(True Copies)
(Signed) G. R. EDWARDS,
Officiating General Superintendent.

(True Copies)
(Signed) C. P. CARMICHAEL,
Asst. Secy. to the Govt., N. W. Provinces.

REPORT

BY

LIEUTENANT W. S. TREVOR,

1st Class Assistant, Pegu Survey,

ON THE

DISTRICT OF PEGU, SURVEYED BY HIM.

REPORT

BY

LIEUTENANT W. S. TREVOR,

1st Class Assistant, Pegu Survey,

ON THE

DISTRICT OF PEGU, SURVEYED BY HIM.

Rangoon, 31st August 1855.

District limited by the latitudes of Henzadah and Akontoung, and has been only partially surveyed as yet.

THE central district of the Pegu Survey is that portion of the Valley of the Irrawaddy embraced between the parallels of the latitudes of Akontoung to the North and Henzadah to the South. Its average length and breadth are 60 and 75 miles, and the approximate area 4,500 square miles, which is divided into two nearly equal parts by the Irrawaddy. The Western portion only has as yet been topographically surveyed, while a route and a sketch of one of the principal nullahs is the extent to which the surveying operations have been carried to the East of that river.

Country bold and hilly to the East and West, but flat near the river.

2. Bounded by the Tharrawaddy range of hills in the East, and having the Arracan mountains as its Western limit, the district has a bold and rugged character at these extremities, which however subsides into undulations and finally a dead flat in the more central parts near the river.

Drainage poured into the Irrawaddy and Bassein Rivers through six mouths.

3. Innumerable smaller nullahs and drains form by their union ten principal channels, along which the accumulated drainage of the Western half of the district is carried and poured into the Irrawaddy and Bassein Rivers through its mouths. These nullahs are either entirely dry, or they contain water to the depth of a few inches only during the hot season, with high precipitous banks and extremely tortuous courses.

They fill after rains.

4. After heavy rains they fill with great rapidity and flow with a very strong current.

Are navigable in the rains.

5. During the continuance of the South-west Monsoons, they become navigable to a distance of some miles above their mouths, and by judiciously taking advantage of the freshets which prevail in that season, boats of considerable burthen can ascend with ease until the character of the stream partakes too much of that of a mountain torrent to a dmit of further progression.

Showing the sources of the nullahs.

6. Of the ten nullahs alluded to, seven have their sources in the Arracan mountains, *viz.*, the Kwengouk, the Taun, the Mamya, the Alon, the Sanda, the Pado, and the Khawa Khyoungs; two in the low grounds near the great Thoo lake, *viz.*, the Simpon and the Noukmee, and one in the Akontoung hills, *viz.*, the Poutine Khyoung.

The Kwengouk Khyoung.

7. The Kwengouk Khyoung has a South-easterly course of about 30 miles, and fall sinto the Bassein River at Chowyna, where it has a width of about 100 yards.

The Taun Khyoung.

8. The Taun Khyoung unites with the Kwengouk Khyoung at a distance of about a mile above Kwen-gouk, and has an Easterly course of about twenty-five miles.

The Thay-ben Khyoung.

9. The Thay-ben Khyoung, an inconsiderable stream, not more than 20 yards wide, i s also a tributary of this Nullah, and falls into it about a-mile-and-a-half above Chowyna.

The Kaw-yeen Khyoung.

10. The Opho or Kaw-yeen Khyoung runs in a South-easterly direction about 60 miles, and, after receiving the Shooayneing and Simpon Khyoungs, debouches into the Bassein River at Soon-goon. It has a communication with the Irrawaddy by means of the Thambaya-dine Khyoung, which joins at the village of Mya Kanoung. This Khyoung has its course through much cultivated country, and its banks for a distance of several miles are almost continually built upon. The width is about 120 yards, the depth in many places exceeds 25 feet.

The Simpon and Noukmee Khyoungs.

11. The Simpon and Nouk-mee Khyoungs have their origin in the low swampy lands in the neighborhood of the Thoo lake as before stated, but may be considered as the continuation of the Mamya Khyoung, which discharges itself into that lake, the surplus water of which finds a vent into the Irrawaddy

through these two Khyoungs. They run Southward through jungly country at distances of about 20 miles and fall, the former into the Opho Khyoung, 4 miles below the town of that name, and the latter into the Irrawaddy at Nouk-mee.

The Mamya Khyoung.

12. The Mamya Khyoung has a South-easterly course of about 30 miles, then turning Northwards it flows into the Thoo lake after a further course of 5 miles.

Its course.

13. The country through which this nullah passes is almost entirely a jungle tract, though a few villages and a little cultivation are to be found on its banks.

The Bashen Khyoung how formed.

14. The Bashen Khyoung is formed by the union of the Alon and Sanda Khyoungs at Hpayay. It is large and winding and passes through one of the most thickly-populated and best-cultivated parts of the District.

Its course.

15. The nullah known by the above name has an Easterly course of about 15 miles, receives the Pado Khyoung at the village of that name, and falls into the Irrawaddy at Meet-kya, nearly a mile South of Kangaen.

The Alon, Sanda, Pado, Kow, Yaythaya, and Pay Khyoungs.

16. The Alon, Sanda, and Pado Khyoungs flow, the first South-east about 25 miles, and the two latter North-east about 30 and 40 miles respectively. They have not much cultivation on their banks, and receive numerous tributaries, as the Kow and Yaythaya Khyoungs to the Alon and the Pay Khyoungs to the Pado.

Poutine Khyoung.

17. The Poutine Khyoung has an Easterly course of about 10 miles; it falls into the Irrawaddy at the village from which it derives its name. It receives many small tributaries in its course, and has on it a few villages with a little cultivation.

Khawa Khyoung.

18. The Khawa Khyoung, after a North-easterly course of about 16 miles, receives the Yaynouk Khyoung, and then turning Northwards flows into the Irrawaddy between the towns of Peengee and Thombo, having run an entire distance of about 22 miles.

Bassein River.

19. The Bassein branch of the Irrawaddy leaves the main stream at a distance by the river of about 9 miles above Henzadah. The opening is about 300 yards wide, but is at present choked up with a bank of sand rising to a

height of from 10 to 15 feet above the water level of the Irrawaddy—at that point, during the dry season, some water, however, percolates through this bank, and forms a stream in the bed of the river.

Arracan mountains run North and South, their greatest elevation 4,000 feet, and covered with jungle.

20. The Arracan mountains, in which nearly all the above nullahs have their sources, is a chain running North and South, and forming the boundary between the Provinces of Arracan and Pegu. The greatest elevation of any part of the chain within the limits embraced by this Report is about 4,000 feet above the level of the sea. The ascents are steep, though not generally rocky, and the entire surface of this hilly tract is covered with dense and tractless forest, the summits of the highest peaks being the only parts not covered, the growth of trees being there prevented by the constant storms to which they are exposed. The only pass within the limits of the district leading over the Arracan mountains, of which I have any knowledge, is that from Lay-ma, a village in the Kangaen District, situated West of Kangaen. It is one of generally easy ascent and can be used by both foot and mounted passengers. Considerable trffiac is carried on by means of bangies borne by men; droves of bullocks and buffaloes also are freqiiently taken over. Water is found in several convenient places, though in insufficient quantities, but from the reports of the natives and the appearances of the springs, I should think that they would be improved vastly by use. In one place particularly the guides stated that a village of fifty houses had existed and drawn their water from a spring which now seldom contains enough even for the satisfaction of a dozen men. West of Opho I attempted an ascent of these mountains, but unsuccessfully, water and the road both failing.

Water scarce, undulating in the plains form part of the spurs from the chain.

21. Water is found in the villages, but not in any large quantities. The spurs of this chain can be traced stretching out into the plains in undulating, though steep hillocks, forming between them the valleys by which are guided the courses of the different nullahs, until they enter the flat tract near the river.

Akontoung hill only instance of high ground near the river.

22. The Akontoung hill is the termination of one of these spurs, about 300 feet high, precipitous and rocky, and the only instance in which, on the Western half of the district, a hill abuts on the river.

23. Villages are to be found scattered over the whole of the tract lying West of the Irrawaddy, except of a positively mountainous nature, thickly covered in a few favored spots, but generally sparely distributed, and usually situated on the banks of streams and along the lines of the principal routes.

Villages scattered over the country, but unequally distributed.

24. The low flat plains at the foot of the hills being most favorable for the cultivation of rice, in which by far the greater part of the inhabitants are engaged, such situations are consequently thickly inhabited and crowded with villages in numbers, to which those contained in places less suited to this employment (though better adapted for other purposes) bear but a very small proportion.

25. The marshy sands near the river are next in importance and contain a considerable though fluctuating population. In the dry weather they are much resorted to for the fisheries which abound there, but as these places are mostly inundated during the monsoons, by the overflowing of the river, the inhabitants are compelled to remove to the higher land at that season, and returning after the flood has subsided, re-build their villages or huts on the banks of the numerous lakes and pools which are left full of water and swarming with fish.

26. Among the hills also are a few villages independent of those already alluded to as being connected with the rice fields—these are almost entirely inhabited by Khins and Karens, but chiefly the former, who affect the hills and the more obscure parts of the district, where they either grow rice or form gardens for the cultivation of vegetables, chillies, oil-plants, &c., and who are extremely shy in their communication with strangers. The villages of the Karens again are often found intermingled with those of the Burmans and occupying some of the best cultivated and populous tracts. They confine themselves entirely to agriculture and the breeding of poultry, pigs and cattle.

Khins and Karens inhabit the hills, villages and gardens.

27. The Burmese portion of the inhabitants generally occupy the towns, and this race is found predominant in all the richest parts of the district; they also work the chief fisheries, and the cultivation of the tobacco plant is carried on by them; the entire trade of the country is also in their hands, they being the owners of all the large cargo boats on which the merchandise of the country is conveyed.

Burmese occupy towns and the richest tracts; they are the merchants and carriers of the country.

28. Carts being very commonly employed by the natives in their communications with one another, and these being the vehicles used in their traffic by land, the country has become intersected in every direction by roads, or rather double lines of parallel ruts, formed by the wearing away of the soil by the constant passage of wheels, every traveller adhering most religiously to the traces left by his predecessor.

The constant passage of carts makes roads.

29. These are circuitous and rude, because in their windings they have followed the caprice of individuals rather than adapted themselves to meet the exigency of any case, and in their construction have been left entirely to nature. Yet they seem sufficiently to suit the wants of this people. In the low grounds they all become impassable after heavy rains, which however occurring only during the South-west monsoons, when, by the filling of the numerous nullahs and creeks, an unrivalled water communication is found and the necessity of carriage by land removed.

Roads circuitous, but answering for the work required of them. Passable only in the dry season.

30. The only inconvenience felt being at the commencement, and close of that season, when neither land nor water carriage is available; yet the natives manage to keep open a sort of communication by means of their buffaloes, an animal peculiarly qualified by nature for overcoming the difficulties of miry roads.

Communications almost stopped at a certain season of the year.

31. On the more frequented routes wooden bridges are often met with spanning nullahs, though in consequence of neglect they are rarely of use to the traveller—these, together with the numerous raised brick and wooden foot-paths generally leading from Khyoungs to Pagodas, or joining the religious buildings of different villages, are the works of charitable individuals and exist chiefly near the principal towns and villages of importance.

Bridges and artificial roads the work of charity and much neglected.

32. The Western half of the district is divided into six townships, which derive their names from the towns in which the Myo-Oke or Native Governors reside—these are Henzadah, Kwengouk, Opho, Kaw-oung, Mya-oung, Kangaen.

Division of Western half in six townships.

33. At Henzadah is a Military Station for one Regiment of Native Infantry, and here also is the Court of the Deputy Commissioner. The town is on the bank of the river, and with its suburbs must contain about 1,700 houses.

Henzadah.

34. Kwengouk again is only a village of about thirty houses, though the residence of the Myo-Oke.

Opho.

35. Opho, though in itself not extensive, contains with the contiguous villages a very large population. An almost continuous row of houses extends along the bank of the Khyoungs for a distance of not less than 7 miles above Opho—these are divided into independent villages, which are called by different names.

Kaw-oung.

36. Kaw-oung is also on the river, and appears to have been formerly a large place—it now contains about 200 houses.

Mya-oung.

37. Mya-oung is the head-quarters of the Pegu Light Infantry, and contains about 1,000 houses along the river's bank.

Kangaen.

38. Kangaen is another town on the Irrawaddy and consists of about 700 houses.

Other towns of any importance in the district.

39. Saitha, Thombo and Phayay are also towns situated—the two first on the river's bank and the latter on the Bashen Khyoung; they contain about 350 and 250 houses respectively. There are besides those already mentioned, some hundreds of villages scattered over the country, of which a more copious and extended account is given in the gazetteer form, together with an approximate estimate of the population.

Occupation and inhabitants.

40. The cultivation of rice and tobacco, fishing and gardening, and the rearing of cattle, &c., are the occupation in which the male part of the community are chiefly engaged, while the women occupy themselves with their domestic concerns, in weaving cloth for home use, and among the residents of towns in selling various articles in the bazar or market-places.

Cultivation how, and when carried on, and by whom.

41. The cultivation of rice is commenced about the month of June, after a sufficiency of rain has fallen to soften the ground and render it capable of receiving the grain; it is passed over with a plough and the water is prevented from running off by small bunds; the seed is sown broad-cast; the harvest is in December and January. Rice is also sown on the banks of many jheels and in the beds of some nullahs throughout

the hot season. The rice thus obtained, however, is said to be exceedingly hard and devoid of flavor, but the yield is seldom less than an hundred-fold.

Tobacco-plant.

42. The tobacco-plant is cultivated exclusively on the chins or sand-banks with which the Irrawaddy abounds. On the rise of the river they become submerged.

Teel-plant.

43. The teel-plant is also grown, though rarely for the sake of the oil which is extracted from its seed.

The common implements of labor.

44. Amongst the implements of labor in use with the Burmese, the dâh or knife-axe holds the most prominent position. With this rude instrument the natives can perform all such works as come within the scope of their necessities with considerable skill and neatness.

The wooden plough.

45. The wooden plough occupies the next place, being the only agricultural implement I have seen; it is worked with oxen or buffaloes and seems to answer every purpose in a country where the soil is so soft as that cultivated in this district.

Rocks not found in the plains, and laterite exists in the hillocks.

46. No rocky formation exists in the plains, and even among the undulating grounds, only small rounded pebbles are met with. Laterite clay is found in the valleys of those undulations, and it appears most conspicuously wherever the action of water has been greatest having become hardened by the exposure.

Peculiarity of soil improving and hardening the road.

47. The surfaces of some of the country roads passing through these grounds are rendered quite hard by the peculiarity of the soil and form a powerful contrast with their general character.

Description of rocks.

48. Rocks occur only in the mountainous parts, where granite, greenstone, hornblende, and sand-stones abound, though except where the action of water has removed the usual covering of mould they are seldom seen.

Lime found near Thombo.

49. Lime-stone also exists in the North of the district near Thombo, at which place a considerable quantity of lime is burnt and exported.

Soil of the plains consists mostly of clay uniform.

50. The principal ingredient in the soil of the plains seems to be clay, which however is not always met with in the same proportion; in some localities sand being found predominating, while in others

decomposed vegetable matter constitutes the chief item in its composition. After the close of the rains the paddy fields harden and break into innumerable fissures while drying.

Saline springs found near Layma.

51. I have found no thermal or mineral springs in my district, but about 2 miles West of Layma, a village in the Kangaen township, and the foot of the Arracan mountains, are some saline springs, from which the natives manufacture salt in quantities sufficient for their own consumption and that of the villagers in their neighborhood.

Trade and exports.

52. The trade and exports of this district are generally confined to the following articles, *viz.*, rice or paddy, napee, wood-oil, bamboos, tobacco and cattle. Yaynan, or petroleum, is imported, and a little indigo is manufactured near Henzadah from the wild plant.

The rice and napee trade.

53. The rice grown inland is taken to the towns on the river's bank for sale, the demand both for consumption and export being greatest there, while the napee made by the people at the fisheries is greatly in request among the agriculturists of the interior. Tobacco cultivation has been already described; all that remains to be said is that its use is very great.

Wood-oil tree—Dipterocarpus levis and Dipterocarpus grandiflora; the former called "kangeen" and the latter "eng," of the first but small quantities exist in the district.

54. Extensive forests of the eng-ben or wood-oil tree are spread over the undulating grounds and higher plains of the district. The quantity of oil annually obtained is already immense, but the country is capable of meeting at least ten times the present demand.

Uses of the wood-oil of the country.

55. The natives use this oil much for torches; it is also employed in making baskests water-proof, and is said to have medicinal properties, with the nature of which however I am unacquainted.

Export of bamboos.

56. Bamboos, of which there are several species in the district, are very abundant, more particularly among the hills. Prodigious numbers of this useful reed are yearly floated down the nullahs and sent down the Irrawaddy to meet the requirements of the large towns.

Export of cattle.

57. Cattle are bred to a great extent throughout the district and eagerly bought up by dealers, mostly Chittagong men, for the Rangoon market: many are taken

down the river on the rafts of bamboos already mentioned and still greater numbers go by land.

58. The timber trade does not seem to thrive here. Teak, if it exists at all on the right bank, can be but in small quantities, and not even sufficient for the wants of the people; while Pingodo is found pretty abundantly among the hills and is a hard, heavy and lasting wood, admirably adapted for the posts used in wooden houses on account of its great power of resistance to the attacks of insects, &c. I know of no other timber in general use for building purposes. In fact, except in the erection of their religious buildings, wood is so seldom employed for building purposes, beyond the mere frame-work of the houses, as to almost warrant the assertion that the laity abide always in bamboo structures. Even the Kyouns and Zayats are as frequently of bamboos as of any other more substantial material, and it is only in or near the Myos or Towns, that they assume the sumptuous and innate character generally assigned by Europeans to this class of buildings. This rule applies with the same truth to Pagodas, whose number and dimensions seem generally proportioned to the importance of the places in which they are situated.

The use of timber by the natives.

Iron-wood or Inga kylocarpai.

59. Buddhism is the established religion of the country and its principles are inculcated by the priest called Pongees or Yayhans, who also educate the male part of the children gratis. In return they are supported by their disciples, who also, for their accommodation and for the expiation of their own sins, erect the various buildings alluded to.

Religion and priesthood of Burmah. Charitable Institutions.

60. The digging of wells is another practice considered very commendable as a religious observance by the Burmese and in great favor among them; but except in places where their use is an absolute necessity soon after their excavation, they are apt to fall into decay and become useless through neglect.

Wells and object of their digging.

61. Orchards of many varieties of fruit-trees are often planted around the Kyouns.

Orchards.

62. In the customs, ceremonies, language, and general habits of the people of this district, I have not observed any thing peculiar, or that is not common to the inhabitants of the whole province.

Ceremonies and customs.

63. Each of the races occupying the land has its ceremonies, language, and even religion, distinct from those of the others; yet they do not differ from those of their own people found in other parts of Pegu, or even of Burmah.

Ceremonies and customs continued.

64. In conclusion, I have to observe, that the population is quite inadequate to do justice to the capabilities of the country. The great part of the district consists of uninhabited forests and wastes of elephant grass, the clearing and recovering of which seems a task entirely beyond the powers of its present occupants. An antipathy to the performance of any species of labor, except on compulsion or through necessity, so inherent in the Burman character, that rewards sufficient to other nations to the greatest efforts fail in stimulating this people to the slightest exertion, combined with the paucity and apparent stagnation of their numbers, prevent the development of resources, which under skilful and energetic management would not only enrich and generally benefit the people themselves, but add greatly to the importance of the province in both a commercial and political point of view. Under the present rule, however, industry has begun to meet with its proper encouragement, and an improvement in the addition of the country may be looked for at no distant period.

Scantiness of the population and general neglect of the advantages natural to the country.

Idleness of the people.

(Signed) W. S. TREVOR, *Lieut.*,
1st Assistant, Pegu Survey.

RANGOON,
31st August 1855.

(True Copy)
(Signed) E. C. S. WILLIAMS, *Lieut.*,
Superintendent of the Pegu Survey.

(True Copy)
(Signed) A. P. PHAYRE,
Commissioner of Pegu, and
Agent to the Governor General.

REPORT

ON THE

NORTHERN OR THIRD DISTRICT

OF THE

PEGU SURVEY,

BY LIEUT. R. F. OAKES.

REPORT

ON THE

NORTHERN OR THIRD DISTRICT

OF THE

PEGU SURVEY,

BY LIEUT. R. F. OAKES.

THE Northern or Third District of the Pegu Survey consists of that portion of the Valley of the Irrawaddy which lies between the boundary line marked by Major Allan to the North, and an imaginary line drawn due East and West through the latitude of Akouk-toung to the South. It is bounded on the East by the Yoma Range, which separates the Valleys of the Sitang and Irrawaddy Rivers and on the West by the Arracan mountains, comprising an area of about (90 × 66) 6,000 square miles, which is divided into two nearly equal parts by the Irrawaddy on the left bank, of which a Route Survey was made, and the principal Pagodas fixed during the season of 1854, while during this season the Survey has been carried on on the right bank exclusively; and to that portion of the country I shall therefore confine my Report.

Boundaries of district.

In this district the bold mountainous spurs from the Arracan mountains run down to the very banks of the Irrawaddy, in some instances losing their abrupt and bold nature as they approach the river. They still retain the appearance of hills, of from 200 to 300 feet in height, as at Akouk-toung, Dongyeedoung and Gobyendoung, while in others, breaking up into undulating ground, particularly in the vicinity of the large nullahs, they leave but a small portion of the country fit for the purposes of cultivation.

General character of district.

The most Southern spur of the Arracan mountains in this district runs almost due East into the Valley of the Irrawaddy, but the general direction of the other main spurs diverges a little to the South, while the spur which sheds its waters into

Mountains.

the Mudday on the one side, and the Matoong on the other, runs in a S. E. direction, and again further North the main ridges run almost parallel to the range of the Arracan mountains, or in a S. S. E. direction. Each of these main spurs consists of a number of high rugged peaks, connected together by saddles of only a few feet in width, above which they rise 400 or 600 feet. These hills are covered with dense tree and bamboo jungle, and their sides are very precipitous and the smaller spurs diverging from the main spurs in every respect bear the same character.

An idea may be formed of the rapidity with which the spurs rise from the valleys by examining the spur over which the Pegu and Arracan road passes and the annexed Table compiled from information received from Lieutenant Forlong:—

Names of Stations.	Direct distance in Miles.	Elevation above the Irrawaddy in feet.	Elevation gained in feet.	Average per Mile.	Distance by the Road in Miles.
Nyoungkedouk or Bank of Kyoupyoo Khg.,	0	180	0	0	0
Tabangyoung,	8	2,100	1,920	240	11⅓
Nyoungyo,	4	3,000	900	225	6
Kyooestekan,	6	3,250	250	41⅔	9
Thabiya,	6	3,300	50	8⅓	9

Nullah.

The drainage of this district is effected by numerous small nullahs, which, by their union, form the larger channels, such as the Kyoupyoo, the Kebeen, &c., which again, by uniting, form the four main channels through which the accumulated waters from the mountains are carried with great velocity into the Irrawaddy, *viz.*, the Matoong, the Mudday, the Shooetena, and the Thelayding. During the dry weather the beds of these nullahs are almost dry, having but a small clear stream running down their channels, with here and there a large hole formed at a re-entering angle of the nullah, in which 5 or 6 feet of water is to be found; but in the monsoon, by taking advantage of the freshets, boats drawing 2 or 3 feet of water

can proceed up the Matoong beyond Mendoong, but in the other nullahs, as there is a considerable slope in their beds as they approach the foot of the spurs, boats, and those of the very smallest description, cannot proceed further than 8 or 10 miles up their streams, owing to the immense velocity with which the water sweeps down to the Irrawaddy, bringing large trees and rocks with it.

The Matoong rises in the Arracan mountains beyond our Frontier, and after running 120 miles in a S. E. direction, discharges its waters into the Irrawaddy about 5 miles to the North of Kamma. Its course is exceedingly tortuous, and as it approaches the river, one bank is usually precipitous (30 to 40 feet), and the other shelving, owing to the light sandy soil of which its banks are composed, and which being gradually washed away at the re-entering angles of the nullah tends not only to change its bed, but also to render it still more tortuous. Its breadth varies from 70 to 120 yards. Its principal tributaries are the Punnee, which rises beyond our Frontier, and after running about 90 miles in a S. E. direction, it changes its course for a distance of 10 miles to the S. S. W., and falls into the Matoong, about 10 miles from its mouth. During the rains boats can proceed up it for a distance of about 10 miles to Namee, but they must be of the smallest description. Its banks vary from 10 to 30 feet in depth, and its bed is near its mouth sandy, but higher up it is pebbly. A good deal of quartz also is found in its bed, it varies from 40 to 70 yards in width.

The Choungwa and the Hlowa, the other two large channels which empty themselves into the Matoong, I have not visited.

The Mudday rises in the Arracan mountains, and after flowing 40 miles in an Easterly direction, empties its waters into the Irrawaddy at Kamma, and forms the boundary between that district and the Myawaddee District. During the rains it is navigable as far as Tagoup, a distance of about 12 miles by the nullah ; its banks are precipitous, 30 to 40 feet in depth, and it varies from 30 to 70 yards in width. Near its mouth the bed is sandy, but further up to Kyoupyoo its bed becomes pebbly, and beyond Kyoupyoo, it assumes the appearance of the bed of a mountain torrent, as large masses of rock and large trees are scattered over its bed, which, by impeding the progress of smaller rocks and of the earth brought down by the waters, at length forms an impenetrable barrier, and the waters are obliged to seek some other outlet and to force

a passage for themselves through another channel, in doing which they constantly wash away the whole side of a hill and leave an almost perpendicular scarp of from 100 to 500 feet in height, with projecting rocks overhanging the nullah in the most threatening manner. Several small islands are thus formed in the nullah. Its tributaries are very numerous, but very small; the description of one of them, the Kyoupyoo, will give a general idea of them.

The Kyoupyoo rises in a small lake at the foot of the Nagyeetoung, and after running 4 miles in a S. E. direction, it changes its course for a distance of 2 miles to the E. N. E., and again for 8 miles in a Northern direction, when it falls into the Mudday at Kanyending. This nullah is so exceedingly tortuous, that from its rise to its mouth the distance traversed by following its bank cannot be less than 60 or 70 miles. It is about 45 feet broad, and as it runs through a loose sandy soil, its banks are precipitous 25 to 30 feet in height, and its tributaries, which are also numerous, bear the same character.

The Shooetena only bears that name for a distance of about 4 miles from the Irrawaddy, into which it pours its waters through two mouths: it is about 150 yards broad, and behind Magyeetong the water is 5 or 6 feet deep; but where it branches off into the Kyoupyoo and the Booiyo,) there is about 1 foot of water. The former, rising in the Arracan mountains as a mountain torrent, runs in a S. E. direction, and retains that appearance for a distance of 80 miles to Nyoungkeedouk, where Lieutenant Forlong's road crosses it, and where the ascent of the hills first commences. Its course up to this point is very tortuous, and its sides are precipitous, winding at the foot of spurs several hundred feet in height; its sides and beds are rocky, consisting chiefly of mountain granite; it varies from 20 to 40 yards in width. From this point to its mouth its bed is pebbly, and its sides are from 20 to 30 feet in height. By taking advantage of a freshet during the monsoon of 1854, the late Lieutenant MacIntosh succeeded in proceeding up this nullah for about half a mile beyond Nyoungkeedouk, in a very small boat indeed, but the Burmese do not attempt to proceed beyond Kyoupyoo, about half a mile to the South of which the Keebeen falls into the Kyoupyoo. This nullah rises at Nyoungyo, the second stage on the road across the mountains, where a large spur runs from the main ridge in a Southerly direction, shedding its waters on the East into the Keebeen, and on the West into the Thelaydeng. Its bed is from 20 to 30 yards wide, covered with pebbles of

flint and granite, and its banks precipitous, varying from 10 to 25 feet in height.

The latter, the Booiyo, rises, I believe, where a large spur separates from the main spur, and runs with a very tortuous course for a distance of about 30 miles in an E. S. E. direction, where the Theree falls into it near Zeeyahla.

The Theree rises in the Arracan mountains, and after running for a distance of about 40 miles in a S. E. direction to Kyoungoo, changes its course almost due South, sometimes running between rocks and at others through a sandy plain: its course is very tortuous, and after following into the Booiyo, the latter retains the same character and runs in the same direction for a distance of 30 miles into the Shooetera. This portion of the nullah is sometimes called the Thamban, and at the point where the Theree falls into the Booiyo, there is what the Burmese call an "eing" or lake formed in the bed of the nullah in which there is deep water all the year round. These nullahs are from 25 to 40 yards in breadth, their beds consist of pebbles and mountain granite, and their sides vary from 10 to 15 feet in height.

The Theloyding rises in the Arracan mountains and runs into the Irrawaddy in an Easterly direction, about 6 miles North of Akouktoung.

The Mingday, which carries off the drainage of the undulating ground to the East of the Punnee and in the vicinity of Thayetmyo, rises in a small range of hills about 10 miles to the West of Thayetmyo, and after running with a very tortuous course for about 35 miles, it falls into the Irrawaddy about 1½ miles South of Thayetmyo. Its banks are low, averaging from 4 to 10 feet in height, and its bed varies from 15 to 30 yards in width and consists of gravel and sand, and in some places of calcerous grit. In the dry weather little or no water appears above its surface, but by digging a few inches below it, very good water may be obtained. The road from Tooinlay to Thayetmyo runs for several miles along its bed, and even during the rains it is very seldom impassable as the water runs off with great rapidity.

Valleys.

The principal valleys are the Valley of Matoong, the Punnee, the Mudday, the Booiyo, the Kyoupyoo, the Theree, and the Thelayding—of these the Matoong valley is the largest, the most open, and the most thickly populated. Near the mouth of the river there is a large tract of low ground, covered with elephant grass, the greater part of which must form a swamp during the

rains; on proceeding about 2 miles up the valley, a pleasanter scene awaits one, for the valley opens out into a smiling tract of cultivation, about 2½ miles broad, interspersed with narrow strips of jungle, while the numerous groves of mangoe, tamarind, or palmyra-trees mark the positions of the villages, some studding the banks of the nullah and others prettily situated at the foot of a small spur about 2 miles from the river; and on its left bank, this open ground, the soil of which is light and sandy, and which is now but partially cultivated, continues as far as the junction of the Punnee and the Matoong nullahs, where the valley begins to narrow as the spurs encroach on the river. From this point to Kanlay, the valley is, I believe, pretty open, with patches of cultivation here and there in the immediate vicinity of the villages; that portion of the valley I have not visited, but from Kanlay to Mendoong, the valley varies from ¾ to 1½ miles in width, and in some places the spurs run down to the very bank of the nullah. This portion of the valley is pretty thickly inhabited, and in order to make the most of the small portion of ground fit for cultivation, water is raised from the Matoong by means of a water-wheel (see Appendix), and thus the low ground on its immediate banks is irrigated and yields three and sometimes four crops of rice in a year. On the low ground, between the bends of the nullah, which consists almost entirely of sand, chillies, brinjal, and tobacco are raised in great abundance and also onions and maize are found in small quantities, a little removed from the nullah on a clayey soil.

Looking from the hill on which Mendoong is situated in a Westerly direction, the valley seems to open a little for a few miles, and there is a large tract of cultivation to its North and West.

This portion of the valley is exceedingly picturesque: the dark, bold and barren rocky summits of the Arracan mountains, distinctly visible in the background, with their abrupt and precipitous spurs running down on either side to the valley, covered with a mantle of dark green of every varying shade, contrasting pleasantly with the lighter shades of the paddy-fields winding, amongst which the clear water of the nullah slowly and murmurringly flow here and there, affording a bright view of its pebbly bottom, present a picture of almost unrivalled beauty.

In the valley of the Punnee there is very little cultivation, as small spurs covered with bamboo and tree jungle run down in many places to the very bank of the nullah; where however a level space is to be

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found, it has been taken advantage of and cultivated, and villages have sprung up in their immediate neighbourhood. The soil in the low ground is light and contains a large proportion of sand, while on some of the spurs large detached masses of sand-stone appear above the surface and others consist of gravel and sand.

As far up the valley as Bangon the villages are larger than the average of villages met with in the district and some 50 or 60 head of cattle may be seen grazing in their neighborhood; from Bangon to Myohoung, where the valley runs in a W. by N. W. direction, it contracts very much and the hills run down to the river's bank, leaving but very small portions of flat ground fit for cultivation; in fact not more than five or six acres together, and they fit rather for the production of tobacoo and chillies than for rice. The villages become therefore proportionably small, and the rice to supply the inhabitants is brought from Bangon, and sold to strangers at the rate of 4 Rupees per basket of 32 seers.

In the valley of the Mudday, from the mouth of that nullah to a distance of about 8 miles to Alayyua, there is a large tract of open ground, varying from 2½ to 5 miles in width. A large portion of this plain has never been redeemed from the low jungle which covers it, opening now and then into smaller patches of grass land, and even of that portion which has been redeemed but a small tract is now cultivated. Proceeding further up the valley, it rapidly contracts, and bold spurs of from 250 to 600 feet in height run down to the nullah, and but little cultivation is to be met with: there are however numerous gardens of plantains, custard apples, and other fruit trees on the banks, marking spots where villages once had stood. At Kyoumay there is a tract of about 250 or 300 acres of paddy ground, but beyond that the valley may be said to narrow to the breadth of the nullah, except here and there, where a larger than ordinary tributary empties its waters into the nullah, and the small portion of open ground in its vicinity is cultivated, and the village is situated on some low spur at no considerable distance.

In the valley of the Shooetena and the Booiyo there is a large tract of open country partially cultivated as far as Layyua, where the valley begins to narrow as the spurs approach the nullah. Here and there large patches of cultivation are to be met with as at Yatha and Zeeyahla; but the valley can neither be considered fertile nor populous, and many

villages on the banks of the nullah are now entirely deserted; but it never could have been very populous, as there is little or no ground which can be cultivated, except in the vicinity of the old sites of Touma and Kyoungoo, as the hills run down to the nullah's bank; and where that is not the case, the ground is low and is covered with elephant grass. There are numerous deserted villages on its bank, and their sites are now so covered with jungle, that it is hardly possible to suppose that four short years ago smiling villages could have stood on such desolate spots.

In the valley of the Kyoupyoo there is a large tract of cultivation on the left bank of the nullah as far as the village of that name, when the valley narrows and the remains of plantain and other gardens, as on the Mudday, mark the spots where villages once stood. After passing Myoungkedouk no villages I believe are to be met with.

In the valley of the Thelayding, from the mouth of the nullah of that name to Hlaygoo, there is a large tract of cultivation of several square miles in extent, which is intersected by a few small nullahs, whose margins are fringed with jungle. At Hlaygoo the hills close on the nullah, but I believe they again recede and leave large tracts of ground fit for cultivation further up the nullah. As there were no less than thirty villages on its bank formerly, the valley was considered by the Burmese to have been both fertile and populous; but two villages out of so large a number now exist, and on that account I deemed it unnecessary to proceed higher up the valley for the present.

Roads.

The roads in this district consist merely of tracks, and are usually formed in the low ground by the first bandy of the season which may pass from one village to another, as the road of the previous season has most probably been obliterated during the monsoon. On the hills and in crossing spurs, the routes can generally be traced from season to season, but even then should a tree or any other obstacle have fallen across the road, the Burmese will not attempt to remove it, but will make a circuit in order to avoid it, and thus the new road of the season is formed. In the steep ascents and descents of the sides of the spurs, the road often appears to have been cut into the side of the hills in order to render the slope more easy—that however is not the case, but the water which falls on the road, in finding its way to the foot of the hill, runs down the wheel-tracks and carries away all the loose soil, leaving a steep bank on either side of the road.

In some few instances where the road crosses small nullahs near their mouths as at Hlaygoo, the Kuano Khyoung near Yatha, and a few others, wooden bridges of the simplest construction, span the nullahs over which the road passes; but in most instances the road crosses the nullahs obliquely, so as to render the slope as easy as possible.

In passing from the valley of one large nullah to that of another, as from Kyoungoo on the Theree to Myoungein on the Kyoupyoo (a tributary of the Mudday), which are separated by a range of hills with numerous spurs, along one of which it is necessary that the road should pass, I have noticed that the Burmese have been very happy in their selection, not only of the spur along which the road should run, which is invariably much lower than the other spurs of the same range, but also with regard to the sides of the Kools, round which the road should pass from saddle to saddle.

Races and their occupation and character.

In a few of the villages of this district some Kayins, a mountain race, who formerly extended over the mountainous and woody tract lying between Bengal, Arracan, and Ava, are now found. "After the conquest of Arracan by the Burmese "they were induced to quit the mountains and settle in the plains. They "spoke a dialect peculiar to themselves and appeared distinct from all the "surrounding tribes. They were remarkable for simple honest industry "and inoffensive manners, accompanied by the rudest notions respecting "religion. They had no idea of a place of future reward and punish-"ment, and denied the existence of sin in their country. They burnt "their dead and collected the ashes, which, after certain ceremonies, were "carried to a place of interment, and on the sod which covered them a "wooden image of the deceased was raised. They believed that their "deity resided on the great Mountain Guowa, whither the remains "of a Hayin, who died within the Burmese jurisdiction, was carried there "to be deposited in the sacred earth. These people had no letters nor "any law, except custom, to which the Burmans left them, never interfer-"ing in their municipal or social economy. The females of this tribe "have their faces tattoed all over, which gives them a most extraordinary "and hideous appearance."*

The Burmese is the other race which almost entirely peoples this district. A Burman is seldom any thing else but a Government

* Symes, Buchanan, &c., in *Hamilton's Gazetteer.*

servant, a soldier, a boatman, a husbandman, or laborer—all their best artificers are foreigners. To their superiors the Burmese are abjectly submissive; towards strangers audacious and ungrateful; in power rapacious and cruel; in their dealings treacherous and faithless; in habit lazy; in their ideas, persons, houses, and food obscenely filthy. They are, however, a social race, and are fond of their wives and their children; their conversation is witty and replete with repartee, but usually of the grossest and most indecent character. There is no caste among the Burmese, so that no individual through fear of personal defilement is deterred from acting in every case according to those rules which secure entire freedom of intercourse between man and man.

Having been so lately emancipated from the cruel despotism of their own rulers, they are hardly prepared to receive the privileges of freedom which they enjoy under our Government; and though they are sufficiently intelligent to perceive the advantages of the change in their social position, they at once arrogate to themselves the privileges of freeman, and looking on all strangers (not armed with the power of the law) as their equals or inferiors, and considering them at the same time intruders, they treat them (as might have been expected from a race who can lay so little claim to civilization) with insolence and disrespect. In such cases I have found that punishment on the spot is the best method to be adopted in order to teach them their position as inferiors, for if threatened with the displeasure of the Commissioner of the district, they do but laugh, as they know that punishment cannot be awarded for some time, and they hope, that being once deferred it may never overtake them at all.

The wants of this people are so few, and those so easily satisfied, and under their rulers the accumulation of wealth was so fraught with danger to the unfortunate possessor, that though exorbitant in their demands for the price of labor, &c., &c., they do not seem yet to have discovered that money is power, and they therefore squander it as they earn it in theatrical masquerades, &c. &c. enjoying the present to the utmost of their ability and leaving the future to take care of itself.

Population.

Of the population of the district, I can form no correct estimate as I have gone over but a portion of it, but it must be very small indeed now, and it increases but slowly, for though the Burmese have large families, so many

children die between the ages of 5 and 12 of small-pox and from other causes, that one generation is hardly more numerous than the one which preceded it.

Religion.

The Burmese are Buddhists. The middling and lower classes of society are content with knowing little more of the principles of their religion than what is ascertained in the public ritual. This announces the three grand objects of religious homage—God (or his substitute a pagoda or image), Fate or the immutable law or course of things, and the Priesthood. The fundamental moral precepts are five and are merely prohibitory; they forbid the destruction of animal life, theft, lying, adultery, and drinking ardent spirits. The doctrine of transmigration is most firmly believed, and also the final annihilation of animal life, and the destruction of material substances. Every thing is mutable, but Fate, which is eternal, and while that ordains the final destruction of present things, it has provided that another material universe shall of itself necessarily arise, and thus successively, *ad infinitum.*

The Burmese, considering the moral features of their religious system and their being surrounded with objects of misery, both among beasts and their own species, which they are taught to contemplate as the effects of retributive justice awarded by an irresistible and unmerciful Fate, ought to be a pious and orderly race of men. In this respect, however, little can be said in their favor. Of their religious character, it may be observed, that while it exhibits little of personal concern and anxiety, it appears to be unmixed with enthusiasm. The religion being national is therefore popular.

Priests.

The priests, the teachers of this religion, have their peculiarities, which are seen in their monastic habits, their yellow apparel, their shaven heads, their unshod feet, their sober meditative demeanor, and in their morning perambulations to receive the voluntary contributions of the people. Their monasteries may be considered the literary as well as the religious institutions of the country; there the boys are taught to read and write, but no attention is given to female education, excepting in a few instances, in the higher classes. Persons of all ages, and without regard to their previous character, are admitted as candidates for the priesthood—present intention is the only subject of investigation. The priests perform no labor, except what is considered as particularly meritorious, and

this consists in eradicating the grass and shrubs which sprout up around their monasteries and pagodas. They never ride on horseback or eat after the sun has passed the meridian. Their public duties consist of recitations from the Dzats, said to be the Revelations of Guatama, relating to his own history through his previous transmigrations, in which the consequences of works of merit and demerit are illustrated by his own personal example, and on days of public worship they edify their congregations, which assemble in "Zyats" contiguous to some pagoda of importance by repeating their liturgy, when the auditors evince their devotions by their humble posture, by elevating their hands with the palms united, and by regular responses. The days of public worship are pointed out by the change, the first quarter, the full, and the last quarter of the moon.

Customs.

The grand annual festival happened at Kamma about the 10th of April and lasted for three days, during which the whole of the inhabitants of the village gave themselves up entirely to festivity and pleasure, and religious prostrations, music and dancing, masquerades, pugilism, throwing water upon one another, puppet shows, and comic scenes made up the festive jumble.

The Burmese are very fond both of poetry and music, and some of their musicians display considerable skill and execution. Their principal instruments are the Tsoung or harp, made of light wood, hollowed and varnished, in shape somewhat like a canoe with a deck; at the extremity a piece of hard wood is neatly fastened, which tapers to the end and rising curves over the body of the harp; from this curvature, the strings usually made of wire are extended to a bridge on the belly of the instrument. There are two sounding holes, one on each side of the bridge. It varies from 2 to 5 feet in length. The Tayan resembles our violin, but has only three strings; it is played with a bow. The Paloay is a common flageolet. The Boundan is a collection of drums, oblong in form and varying in size, which are suspended by leather thongs. The whole machine is about 5 feet in diameter and 3½ feet in height. The drums are struck with the ends of the fingers with great force, and both practice and skill are requisite to render one a proficient on the instrument. This instrument is usually accompanied by cymbals and a triangle.

The game of chess called Tsittoo-ying, is in high estimation among the higher classes; their board is exactly the same as ours, containing 64 squares; their pieces are the same in number, but they are differently arranged on the board and vary very considerably from ours in power.

This game is of very high antiquity, and is even authorized by their sacred writings, while games of chance are prohibited. They also play another game, somewhat resembling our game of draughts.

The redeeming trait in the character of the Burmese is exhibited in their respect and affection for their wives, who, though not considered their equals, are not looked down upon as women usually are in the East.

In the management of household affairs the wife takes the principal share; she goes to market or directs purchases to be made, and superintends the cooking or does it with her own hand; she contributes to the general support of the family by spinning, weaving, dyeing, trafficking in bazar articles, or by keeping a shop and vending merchandise. In conducting the general family concerns her judgment is consulted, given with perfect freedom, and seldom entirely disregarded. The female branches of the family are not recluses here, nor are they reserved and shy; but women of all ranks enjoy a high degree of freedom, appear abroad unveiled wherever they choose, ornamented according to the taste and fashion of the country, and add zest to public scenes of amusement by their presence and gaiety.

Forms and Ceremonies.

In the ceremony of marriage little expense is incurred either of time or money. A feast of good things, according to the ability of the bridegroom, is prepared, in which the assembled family connections participate. The married pair taste a mixture of the tea leaf steeped in oil, eat together from the same plate, and exchanging their reciprocal promises they twain are made one flesh. The marriage contract however is regarded with little respect and no disgrace is attached to a divorced husband or wife. Polygamy is not only allowed, but abounds in this country, and females are purchased as concubines. If a concubine wishes for her release, the terms of her departure are made easy, and consequently a high sense of female chastity is not prevalent.

The funeral solemnities amongst the Burmese are conducted with decency. The manner of disposing of the dead is either by incineration or burial, the former is esteemed the most honorable. The corpse is enclosed in a coffin, ornamented with gold leaf, or otherwise according to the means of the friends of the deceased, and followed by the mourners dressed in white, is borne to the public place of interment, which is without the city; the procession being usually preceded by the music of wind instruments and drums, and the presents intended for the

priests, who may be invited, which usually consist of pieces of cotton cloth, sugar-cane, and fruits of various kinds. On their arrival at the place of incineration, fuel is placed under the coffin, the moveable ornaments being first taken away, and the corpse is consumed, after which the bones are interred.

When a priest dies he has peculiar honors paid him : his body is immediately embalmed, after those parts, which are most liable to become offensive, have been removed, and after being kept for some time, is publicly burned. For several days previous to the burning of the sacred relic, the people are very busy in preparing a large stage or tower about 15 feet high, which is ornamented with paintings of elephants and other animals, and is borne on four large wheels. Above this tower a balcony is placed, which contains the coffin, decorated with small pieces of colored glass, and the corpse, half of which is visible, is covered with gold leaf. Above the whole a lofty pyramid, decorated with small figures cut out in cloth, is raised. This curious structure is drawn to the place of incineration by women and boys, and at its arrival there, ropes are attached to the hinder portion of the car and a sham contest ensues, one party seeming to indicate a reluctance to have the precious corpse burnt. The foremost party however prevails, and amidst loud shoutings, clapping of hands, sounding of drums, tinkling of instruments, and a most disgusting exhibition of female dancing, the vehicle is taken to pieces, the most valuable parts of which are preserved, and the corpse is consumed.*

The Burmese language appears originally to have been purely monosyllabic, but it has borrowed largely from the Pali, and has formed many polysyllables from its monosyllabic roots, according to the analogies of that language. It has no inflections and depends almost entirely in juxta-position for the relative value of its words. Its pronouns and particles are peculiar, its idioms few and simple, its metaphor of the most obvious kind, but it is copious in terms expressive of rank and dignity, and the rank of the speaker is indicated by the peculiar phraseology which he employs. Repetitions of the same term and expression are affected rather than shunned, and a sententious brevity and marked simplicity of phrase are the greatest beauties of which the language admits.†

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* Borrowed from Judson. † Josiah Conder.

Manufactures.

The manufactures of the Burmese are few, and principally for their own consumption. They are as follows :—sugar, which is obtained by extracting molasses from the palmyra ; castor-oil from the castor-oil plant, which does not however abound in this district ; oil from the Jug B., see Appendix ; cutch from the Sha B. ; ropes from the bark of the Nahay ; cheroots from a coarse tobacco which abounds on the low sandy soil between the bends of most of the nullahs, particularly on the Matoong and the Punnee ; baskets and mats of bamboo ; ngapee (cured fish) ; and the women spin and weave a coarse cloth from the cotton plant, a shrub of from 3½ to 5 feet in height, and which abounds on a light sandy soil ; it seems to grow wild in the vicinity of the nullahs.

Agriculture.

The Burmese cultivate rice, tobacco, maize, onions, chillies, betel, brinjal, and numerous other vegetables ; besides a great variety of fruits. They also cultivate a small rice, which is very highly prized, and which is considered sweeter than the common rice called the Toungya rice. This rice grows on the sides of the hills, and the ground is prepared as follows :—The jungle is cut in February or March and is burnt in May, and the charcoal forms the only manure ; the paddy is thrown along the hill-side and is nourished by the monsoon. Only one crop can thus be obtained in twenty or twenty-five years from a hill-side. There was a good deal of cleaning for the cultivation of this rice in the vicinity of Too-in-lay and the Sapouk Khyoung this year.

Implements of labor.

The only implements of labor I have seen in this district are a rude plough drawn by two bullocks, which merely consists of a piece of wood 8 inches by 5 inches, with the lower extremity curved and sharpened to a point, which is either hardened in the fire or shod with iron, and on which the ploughman stands—this is attached to the centre of the yoke and comes down like a pole between the bullocks : a wooden rake, about 6 or 8 feet long, which is also drawn by bullocks, and a small spud of iron 2½ inches by 1 inch broad, with a bamboo or wooden handle.

The soil in the valleys on the immediate banks of the nullahs is usually sandy, at the foot of the spurs it is usually light and friable ; while the hills consist of either sand, gravel or rock ; little or no clay is found in the North, though there is a little at the South of this district, in the vicinity of Akouktoung and the Theladeing.

Crops.

The principal crops are rice, maize, and tobacco. The vegetables are chillies, onions, brinjals, gourds, pumpkins, and cucumbers. There are gardens of betel, the castor-oil plant and the cotton plant. Of fruits there are plantains custard-apples, guavas, wood-apples, figs, oranges, limes, and citrons.

There are groves of mangoes, palmyra, cocoanut, and tamarind trees. There are also the wild crab and gooseberry trees, besides a large variety of jungle fruit trees.

Exports and Imports.

The chief exports at Thayetmyo consist of rice, paddy, betel-nut, dried fish, and ngapee. From the Northern districts bamboos are sent down to Rangoon and the oil from the Jug B.; and lime may some day be exported from it, and also cutch, instead of being imported, as it is at present.

The chief imports at Thayetmyo are silk clothes, lacquered-ware, earth-oil, cutch, lead and copper.*

In the Northern district, in December, January and February, the climate is very trying, as there is a difference of between 40 and 50 degrees in the temperature in the morning and evening and at mid-day. Early in the morning there is a dense, damp, and cold fog, which clears away about 9 A. M., when the thermometer rises 45° to 90° or 95°. In March and April there is not much variation in the temperature of the day and night. The days are rather warm and the air dry. May is the hottest month in the year, the days are extremely sultry, and there are usually a few thunder-storms before the monsoon commences, which it does in the beginning of June and lasts till the end of September or the beginning of October, when there are a few violent storms and the monsoon closes. At Thayetmyo the rains are not so severe as at Prome, or the Southern part of the district, nor do they commence so early, and the climate is cool, but not so damp as in the South, for the rains do not last incessantly for two or three days together, but consist rather of showers alternating with sunshine.

The towns, as I suppose the chief villages of each district may be termed, usually have one good street 60 to 70 feet broad, in which the bazar and shops are situated; into this street a number of smaller ones lead in the most irregular manner. They are situated on the river's bank, or on the bank of the principal nullah in the district; they contain

* *Government Gazette* dated 17th October 1855.

several Poongy-houses and Pagodas, and form the residences of the Myo Thoogyees or headmen of the district. The houses are built most irregularly, and there is no drainage, except at Prome and Thayetmyo, the residences of the Deputy Commissioner and Assistant Commissioner of the district, where the bazars have been properly laid out and drained.

The bazar at Thayetmyo is situated on some beautiful undulating ground, so as to require little or no drainage, and as all the streets are broad and well laid out, and as all the houses in the same street are built of the same height, with their floors at a uniform distance from the ground, it presents a neat and orderly appearance.

The villages are of various sizes and are laid out with no irregularity whatever. Each person selects the site best suited to his requirements, and encloses a small piece of ground, either for a garden or to keep his bullocks in at night. The houses are raised from 2 to 10 feet from the ground, and are constructed of rough jungle trees for posts and frame-work, while the floor is made of bamboo laid longitudinally and transversely—the former are usually whole bamboos, while the latter are split and are fastened together by rattans. The walls are usually made of bamboo mats and the thatch of grass tied by rattans to the frame-work of bamboo. If the village is a large one, it most probably contains a Pagoda, a Poongy-house, and a Zayat.

Buildings.

The Poongy-houses are built of fine teak posts; the frame-work, and also the planks for the sides, the partitions, and the floor, are of the same wood; the floor is raised from 6 to 10 feet from the ground, and the roof is made of flat tiles, or is thatched with leaves. Over the main body of the building, there are unusually five or six roofs elevated one above another, and the whole crowned with a gilded ball or umbrella like the Pagodas. The cornices, angles, and eaves are ornamented with flowers and figures of elephants and other animals. Some of their houses are too large for one roof. In these instances several roofs are placed side by side, and the water is carried off by long wooden gutters placed in the house just below the eaves. The largest I have seen contained 168 posts and covered an area of about 10,240 square feet. This house was the residence of a Queen of Ava, who lived about 90 years ago at Thayetmyo, where she also built a very peculiar Pagoda. The lower portion of this Pagoda is about 30 feet square and 24 feet high; the interior is hollow; and over

this, there is a flat terraced roof, supported by solid arches springing about 8 feet from the ground, and meeting in the centre they form a dome; small steps of masonry in one corner of the building lead to the terraced roof round which there is a small parapet wall with a miniature Pagoda at each corner. From the centre of this platform the Pagoda rises like a pyramid, with its four sides consisting of four planes, which are ornamented with figures and flowers, and which sloping gradually up meet in a point at about 50 feet above the terraced roof, and is crowned with an umbrella like all other Pagodas. The Pagodas are usually of solid masonry and vary but little in shape, the more sacred are gilded.

The Zayats are built of posts of teak and are thatched with leaves and in the smaller villages they have neither walls nor partitions. Here public worship is performed and travellers rest on their journey; there are usually two chatties of water placed just outside them, with a cup formed of half a cocoanut shell for the benefit of strangers or passengers.

Wild animals.

The principal wild animals and birds met with in the Northern district are the elephant, the tiger, the bear, the deer, the hog, the hare, the porcupine, and monkeys in great abundance; the crane, the crow, the wild duck, the hawk, the jungle fowl, the kite, the minah, the paddy bird, the parroquet, the partridge, the peacock, the pigeon, the pheasant, the quail, the snipe, the sparrow and the teal.

APPENDIX.

LIBRARY
OF THE
BOMBAY
BRANCH
OF THE
ROYAL ASIATIC SOCIETY.

Appendix.

Myooshan, ... *Dalbergia*, ... This tree is found all over the district and yields a wood that the residents at Moulmein sometimes call lance-wood.

Yimbom, ... *Dillenia ornata*, ... The ornamental Dillenia in February is covered with a large gaudy yellow flower, which blooms when there is not a single leaf on the tree.

Moung B., ... This is a species of banyan which grows on low ground near water. The tree of the same name on the hills is a stunted fig tree, the fruit of which rarely comes to perfection.

Sha, ... *Acacia catechu*, ... Cutch, the produce of a species of Acacia, abounds in the North of this district; it is an article of merchandise, and large quantities of it are consumed both by the Natives of Burmah and India, as it adds a stringency to the betel. It is used for various purposes, *viz.*, in tanning and dyeing leather, in varnish, and sometimes medicinally.

Lepan, ... This is a large tree, which is found on the low sandy ground in the vicinity of the nullahs. It has a smooth bark, and up to about 6 or 8 feet from the ground, 4 or sometimes 6 buttresses support it—some of these project 4 or 6 feet from the ground and have a very peculiar appearance. It grows to a height of from 70 to 90 feet, and produce a large pod containing silk cotton, which is used for stuffing mattrasses, &c.

Deedoo, ... This tree is also silk cotton tree and abounds on the hills in the valley of the Punnee. It has a peculiar appearance, for its branches do not taper off into delicate twigs, but at the very extremity of the twig it is about an inch in circumference, and seems to terminate with a small ball. The pods are about 4½ inches long, while those of the Lepan are 7 or 8 inches long.

Nabay, ... This is a species of Odina, its bark is white and smooth, and is used for making ropes. Its leaves are used medicinally, and are larger, though somewhat like those of the mangoe tree.

Gway B., ... This is a jungle fruit tree—the fruit is sour and resembles a plum with a large stone—it is nearly the size of a hen-egg, and of a bright yellow color. Burmese and monkeys are very fond of them, and the former also eat the leaf.

Gyo B., ... This is a large tree, the wood of which is extremely hard, and is used as a pestle and mortar for grinding rice and in crushing the castor-oil seeds. Its fruit is about the size of a plum, but is green and very sour.

Hseik Khyay, ...
Red sapindus, ... This is a small inferior fruit tree, the fruit of which is eaten by the Natives only. It bears its fruit in bunches.

Peemal, ... This is a large timber tree, and it is cut up into planks and used for building purposes.

Thingan, ...
Hopea odorata, ... The Hopea is considered the most valuable indigenous timber tree in the Southern Provinces, and at Tavoy and Mergui it is sawn up for building purposes. The best canoes are made of Hopea, and it is used extensively in Native boat buildings.

Thesing, ... A fruit tree like a chesnut.

Shonk, ...
Citrus bergamia, ... This is the large lime, usually called citrons by Europeans, but the trees are easily distinguished by their leaves, as the leaf of the citron is simple, while that of the large lime is winged.

Kookko, ...
Acacia, ... This is a large timber tree and is sometimes wrought into canoes. It is a species of Acacia.

Jug B., ...
Dipterocarpus grandiflora, ... This is a wood-oil tree, which grows in great abundance on the sandy hills in the interior, particularly between Toomlay and the Mudday Khyoung. This tree grows to a very large size, and the oil is collected by cutting large holes in the tree in which the oil accumulates, after undergoing some preparation by which the oil is entirely extracted from the timber. It can be used for building purposes.

Teethee, ... This is the same fruit which in England is called the Chinese Date. It however is not a date, but the fruit of a species of ebony.

Phanga, .. Mysobalan fruit is esteemed medicinal by the Burmese, and is dried and sold among the drugs.
Terminalia bellevica,

Thabya, ... The bark of this tree, a species of Eugenia, is used as a mordant for blue and black dyes.

Itch-wood, so called on account of the itching which its chips or bark occasions when brought in contact with the skin. Its timber is sometimes used for house posts and for rice mortars.

Yee B. .. A plum.

Yoon, .. This wood is used to make the comb used by women in wearing.

Tree B., .. The Jujube, from which the Jujube lozenges are made, is a small sour berry—a great favorite with the Burmese: the tree is of middle stature.
Zezyphus jujube, ..

Thabyoo, .. A species of Dillenia found on the borders of streams—it produces a large fruit, which is brought to the bazaar green and is considered a favorite vegetable with the Natives.
Dillenia, ..

Touksha, .. This tree produces a valuable small timber.
Vitex arborea, ...

Padouk, .. A hard valuable timber tree. It is used in house and boat building, and carts, chairs, tables, &c., are made of it.

Teak, .. This timber has the invaluable property of being impervious to white ants, and is consequently considerably used for building purposes, and also for furniture.

Ling B., .. This is a small tree with a rough bark, from which a fine clear gum exudes in great abundance.*

In my Report I have mentioned other trees which are found in the Northern district, but of their nature and property I have not been able to discover any thing.

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* The information contained in this Appendix is obtained partly from observation and enquiry and partly from the Reverend F. Mason's Work on the Tenasserim Provinces.

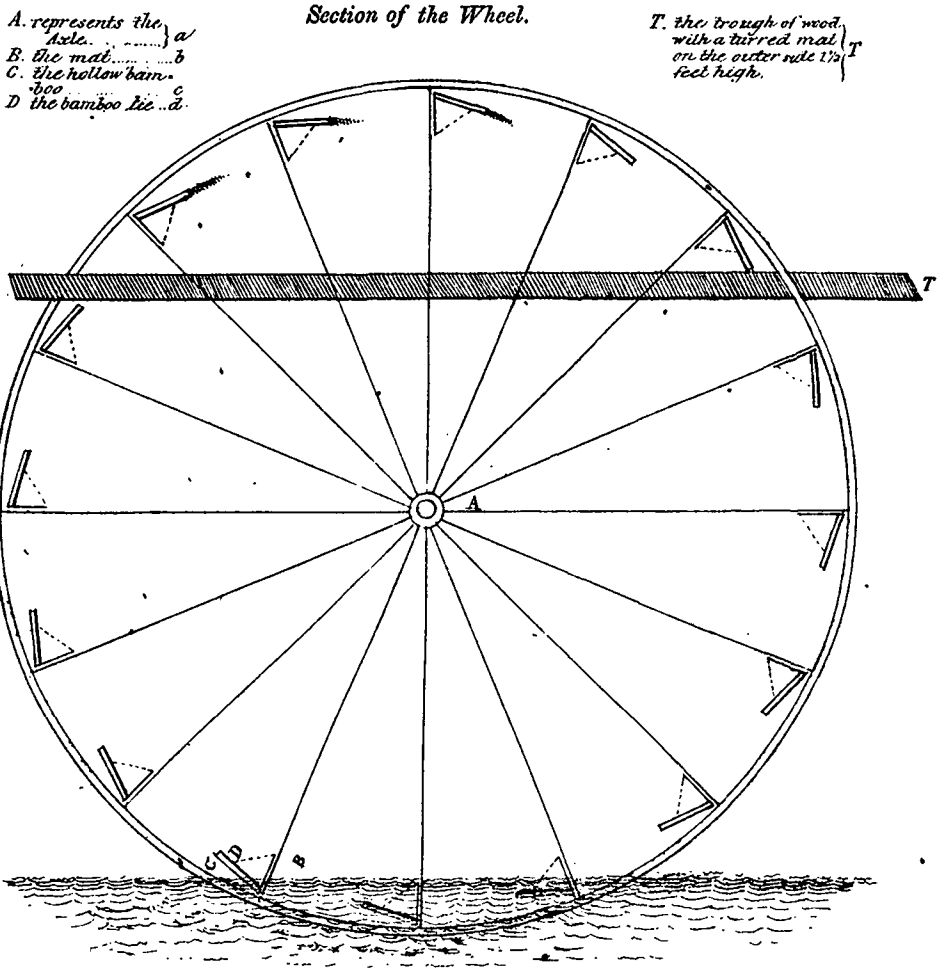
Appendix.

THE wheel, by means of which water is raised from the Matoong to irrigate the ground on its immediate banks, is about 36 feet in diameter, and is constructed almost entirely of bamboos, with the exception of four or six uprights of common jungle wood, over which two cross pieces of wood are placed to support the axle, which turns in grooves. The axle is of wood, 2 or 3 feet long and from 9 inches to 1 foot in diameter. From it numerous spokes of bamboo are carried to, and attached to the circumference, which consists of three bamboos. At the outer extremity of every three bamboos or spokes which run from the axle to the circumference, a coarse bamboo mat, 1½ feet in width and 2 feet or 3 feet long (according to the breadth of the circumference of the wheel), is attached, and from their centre two hollow bamboos capable of containing about a quart of water, each diverge outwards, forming an angle of about 75° with the mats. As the wheel revolves, the lower extremity is immersed about 18 inches in the water and the bamboos are filled, and as they turn over when they reach the upper portion of the wheel, the water is discharged into two troughs placed one on each side of the wheel, which again discharge themselves into a larger trough, the lower extremity of which rests on the bank and pours the water into the ground to be irrigated. As the mats are about 1½ feet apart at the circumference of the wheel, there are seventy-five of them in each wheel, and therefore 150 quarts of water are raised at each revolution of the wheel. There is a good deal of water wasted however, and on an average about 80 quarts of water, or 5545·48 cubic inches, is actually raised at each revolution. And as the current runs at the rate of 1¼ miles per hour, and the wheel is very light, it may be supposed to revolve at the same rate or once in a minute, and as these patches of cultivation do not exceed an average of 4 acres each, the water discharged over the whole surface in 24 hours is 32 of an inch, or three times as much as is required in the North-Western Provinces.

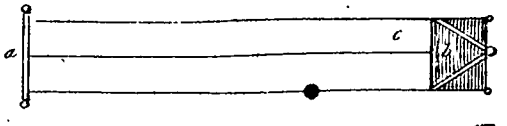
These wheels are placed where the bank is precipitous, just below a bend of the nullah where the current sweeps along the bank and the wheel is turned by the water. When there is only a slight current in the nullah, the Burmese make a bund across it a few feet above the wheel by means of bamboo uprights, against which coarse mats are placed with pebbles and earth on the inner side, so that but little water escapes, and that chiefly by passing over the bund; and when sufficient water has accumulated, the mat immediately behind the wheel is removed and the current rushing through the aperture thus formed causes the wheel to revolve.

The first heavy shower in the monsoon destroys these wheels, for the waters rush down with considerable violence from the hills and soon demolish such frail fabrics, leaving only the uprights and the axle.

Section of the Wheel.


A. represents the Axle. a
B. the mat. b
C. the hollow bamboo c
D the bamboo lie d
T. the trough of wood with a turred mat on the outer side 1½ feet high. T
T
A
C
D
B

T Black, Asiatic Lith. Press Cal.



(True Copy)
(Signed) A. P. PHAYRE,
Commr. of Pegu and Agent Governor General.

REPORT

ON THE

FLAX OPERATIONS OF THE YEAR 1855.

REPORT

ON THE

FLAX OPERATIONS OF THE YEAR 1855.

THE Local Government of the Punjab having recommended, and the Supreme Government of India having sanctioned, certain measures suggested by the Agri-Horticultural Society of the Punjab for the improvement of the linseed cultivation of this country and the introduction of flax as a staple produce, and those measures having been carried out as far as the limits of a single season would admit, it has become necessary to report on the result.

2. The Report will be divided into five Sections. The 1*st*, detailing the result of the cultivation by the Society of 40 beegahs of land, in the vicinity of their garden; 2*nd*, the effect of the steps taken to increase linseed cultivation; 3*rd*, the result of attempts to introduce the preparation of flax in the Punjab; 4*th*, the consideration of the amount of rewards to be adjudged to certain Zumeendars; and *lastly*, the further measures which are, in the opinion of the Society, necessary to bring the whole of this interesting experiment to a more successful issue, with remarks on the attention that might, with advantage, be devoted to other fibre-producing plants.

3. It will be remembered that the Government placed the sum of Rupees 800 at the disposal of the Society, for the purpose of hiring 40 beegahs of land in the vicinity of the Society's garden, and devoting it to the cultivation of linseed and the rearing of flax. The ground selected, though in many parts suitable, proved in others the reverse. Experience has always to be bought at a cost more or less heavy. The seed then procurable in the bazar was mixed with rape and other foreign seeds, and the weeding, which became necessary in consequence proved an expensive operation. The crop was on the whole, however, likely to turn out a favorable one, the plants in many of the fields having attained an average height of 2¼ feet, when the crop was destroyed by a fearful hail storm in the beginning of April, which cut down the

plants so entirely as to preclude all chance of securing any fibre, or even obtaining any of the seed, that would have been available.

4. Most fortunately the small plot of flax (about two kanals), which had been sown with English seed, obtained from Dr. Royle overland, had been reaped a few days before the occurrence of the storm, and sufficient seed and fibre were secured to be of use, as will be shown hereafter.

5. Secondly, with regard to the steps taken to increase the linseed cultivation of the Punjab generally, it was resolved, in the first instance, to print and circulate largely the proposition of the Society, offering certain rewards sanctioned by Government, and their instructions on the subject. These papers, together with the local influence brought to bear by the District Officers, induced a considerable increase throughout the Punjab, as proved by the fact that, whereas, in the season 1853-54, the quantity of land occupied by linseed for mere home consumption, on a very limited scale, in the eight districts of Peshawur, Hooshiarpoor, Jhelum, Shahpoor, Goojrat, Thaneysur, Umballa and Loodiana, from which comparative returns have been received, was 3,453 acres; the large number of 19,039 acres was taken up for this cultivation, in those same districts in 1854-55; the incentive of a market, as offered by Government, operating no doubt as a powerful incentive, cultivation was in 1854-55 taken up for the first time.

6. Annexed is a Table showing in detail the respective breadth of land, in acres, taken up in the seasons respectively alluded to.

	1853-54.	1854-55.
Loodiana, ...	1051 Acres	1916 Acres
Umballa, ...	1042 „	5907 „
Thaneysur, ...	69 „	413 „
Goojrat, ...	572 „	4664 „
Shahpoor, ...	35 „	667 „
Jhelum, ...	215 „	2930 „
Hooshiarpoor, ...	435 „	2424 „
Peshawur, ...	84 „	118 „
Total, ...	3453 „	19039 „

7. Of the land sown with linseed during the season 1854-55, much, especially in the Districts of Jhelum, Sealkote, Hooshiarpoor, Umritsur and Umballa, was sown so thinly as to yield a comparatively nominal return. In the districts of Lahore, Sealkote and Umritsur, much damage was sustained by hail. The following Table will show the quantity of seed supposed to have been produced throughout the Punjab during that season.

Districts.	Cultivated Acres.	Estimated Produce.
Thaneysur, ...	413	826 Mds.
Umballa, ...	5,907	9,283 „
Simla, ...	0	0
Ferozepoor, ...	292	714 „
Loodiana, ...	197	168 „
Kangra, ...	4,000	6,000 „
Hooshiarpoor, ...	2,424	3,310 „
Jullundur, ...	766	752 „
Goordaspoor, ...	12,136	48,544 „
Umritsur, ...	5,286	2,500 „
Sealkote, ...	8,494	15,609 „
Lahore, ...	771	3,155 „
Goojranwalla, ...	764	2,292 „
Googaira, ...	24	80 „
Mooltan, ...	6	30 „
Jhung,...	25	150 „
Khangurh, ...	80	0 „
Leiah, ...	0	0 „
Dehra Ghazee Khan, ...	0	0 „
Dehra Ismael Khan, ...	0	0 „
Goojrat, ...	4,664	25,850 „
Shahpoor, ...	668	2,672 „
Jhelum, ...	3,100	2,104 „
Rawul Pindee, ...	0	0 „
Huzara, ...	0	0 „
Peshawur, ...	118	0 „
Kohat, ...	0	0 „
Total,...	50,135	1,46,538 Mds.

Assuming that the average produce of the previous season was the same, *viz.*, 2-36-14 per acre, that the difference throughout all the districts was the same, and that the produce of 1853-54 was therefore 27,863 maunds, we have an increase of 1,18,675 maunds for last year's operations, valued at about Rupees, 1,50,000 at 34 seers per Rupee, and a substitution, to that extent, of an exportable for a superabundant article. The fact however is, as shown by the returns from Goojrat (where the average produce was increased from 2-37-4 to 7-11-10) and elsewhere, that the increased produce of 1854-55 might fairly be esti-

mated at 1,30,000 maunds, value upwards of Rupees 1,60,000. It is on the other hand to be admitted that the returns have in themselves not been so profitable to the Zumeendar this year as they might have been. The staple is a new one. He cultivated carelessly, looked more to breadth of land sown than to amount of produce, and will not have derived the full benefit of ruling prices; the profits that have accrued having been realized by the dealers, who hastened to buy up as soon as they had authentic information of a good market at Kurrachee.

8. The offer of Government not only to purchase the whole crop of linseed should cultivators be inclined to sell, but also to pay for its carriage from the spot where cultivated to Lahore or elsewhere, rendered it necessary to make arrangements for receiving, stowing, cleaning and packing the quantity which it was estimated would be available. The Government placed the large sheds of the Eastern half of the Cantonments of Lehna Singh at the disposal of the Society; authorized the engagement of the requisite establishment under Mr. Lawrenz Steiner, a most efficient Superintendent, whose services became available just at the time they were required, and whose intimate acquaintance with flax cultivation in Germany made him a most valuable acquisition; and sanctioned such other arrangements as seemed requisite. A price was fixed, after consultation with the dealers in Lahore, which seemed likely to be remunerative in the several zillahs to which it was made applicable, and notices issued, in accordance therewith, authorizing officers in distant districts to purchase and store, with the view of ultimate despatch direct to Kurrachee.

The following is a Memo. of the prices that were fixed for the respective zillahs :—

Zillahs.	Rate.
Hooshiarpoor, ...	1 Rupee for 27 Seers.
Goojrat, ...	Ditto for 27 Seers.
All other Districts, ...	Ditto for 34 Seers.

9. The mercantile public of Calcutta, Bombay, and Kurrachee were informed by the Supreme Government of the probability of a consider-

able quantity of linseed being available for purchase at Kurrachee during the year 1855; expectations of a large commercial transaction, for effecting which all the necessary treasury arrangements were made, were reasonably entertained; and a number of ripples, instruments for stripping the seed from the plant, were prepared, both for distribution as musters throughout the country, and for use in the Depôt at Lahore.

10. But singular to say, although the cultivators had expressed their readiness to sow, on the condition of the Government finding them a market, and notwithstanding the very large increase of produce, when the time came for reaping the crop and cultivators were called on to bring in the produce, it was discovered that they could find a more profitable market than the one offered by Government, and that out of the whole 1,46,538 maunds, very reasonably supposed to have been produced, and of which it was at one time thought at least 31,660 maunds, would be available to Government for export, the quantity brought in for sale to the Government Officers and to Lahore only amounted to 11,301 maunds, in the following proportions:—

Umballa, ...	1,014
Ferozepoor, ...	649
Loodiana, ...	108
Kangra, ...	100
Hooshiarpoor,...	2,638
Jhelum, ...	2,004
Shahpoor, ...	100
Lahore, ...	4,696
Total Maunds	11,301

The purchases at Lahore included the districts of Lahore, Sealkote, Jullundur, and Goordaspoor; not a grain came from Umritsur or Goojrat.

11. The District Officers at Kangra, Hooshiarpoor, Ferozepoor, Jhelum, Shahpoor, &c. sent the seed they purchased direct to Kurrachee, and it has there been sold by public auction at an average rate of upwards of, but say Rupees 4-6 per maund, yielding say Rupees 28,899-14-0. Assuming that, including prime cost, carriage to sudder station, freight to Kurrachee, and commission, it has entailed on Government an outlay of Rupees 2-12-0 per maund, which is certainly above the mark. The average *profit* on these sales will amount to Rupees

1-10 per maund, or a total of Rupees 10,733-2-0 on the wholesales at Kurrachee, or a profit on outlay of above 59 per cent.

12. The linseed delivered at Lahore, amounting, on estimate, to 4,685 maunds (estimated because much of it was brought attached to the stem and had to be rippled in the Depôt), for which Rupees 5,797 was paid in cash, or by receipts, which have no doubt been honored at the respective treasuries, was carefully cleaned, and found to yield, after undergoing the operation of winnowing, sifting, &c., 4,825 maunds, or 140 maunds in excess of the estimate. The exact quantity was 4,840 maunds; of the 15 maunds not sold, 6 were sent as muster to Kurrachee, and a small quantity reserved in the Depôt. With a view of avoiding all risk of transport by river, and inducing a native mercantile transaction on the spot, the whole was sold to a Mooltan firm, at Rupees 2 per maund of 41 seers, which yielded a sum of Rupees 9,410, the amount paid into the local treasury by the Secretary, who holds receipts for the same.

13. On the out-turn of the highly favorable sales at Kurrachee being made known to the Financial Commissioner, that Officer immediately caused a notice, embodying the results, to be extensively circulated throughout the Punjab, and as the vast majority of the cultivators think that 1 Rupee per half maund would yield a profit to them, and the merchant paying at that rate would still realize a fair profit, it is not to be doubted that the practical exemplification of the advantages derivable from linseed tillage will be followed by largely increasing cultivation during the present season 1855-56.

14. With such prospect of increase, and the probability that Government support may no longer be absolutely required, as to the holding out rewards, it becomes a question, whether it will be desirable to afford it in that shape, may be answered by the consideration that, as it can be afforded with a certainty of a return on any amount of purchases, and that with the prospect of another year's encouragement of this nature, the cultivation, as a staple, will be firmly established, aid should be given in that particular shape, especially as exportation will become an important branch of trade (the river boatmen alone will have benefitted to the extent of some Rupees 10,000 in the shape of freight), for, independent of the comparatively large purchase made by the Mooltan firm at Lahore, it is now known that Agents from Shikarpore and other places have been in the Upper Districts, purchasing all the linseed

they could find, and that for many days hundreds of maunds were sold in the markets of Umritsur at from Rupees 1-12 to 1-14 per maund, all avowedly for exportation. The export returns of the port of Kurrachee for this year will show the entire amount sent down from the Punjab and the difference between the total exported, and the quantity sold on account of Government, will give the quantity exported by private parties; further, with the exception of small quantities of wool, linseed will be found to have been the first article, the produce of the Punjab, exported from Kurrachee for home consumption.

15. Should the Government be of the opinion entertained by the Society, that it would be desirable to continue linseed operations in this direction only (the arrangements made with certain Zumeendars of Goojranwalla and others, recommended by the Financial Commissioner, will in fact render it necessary to do so), and apart from those connected with the produce of flax for another year, it is recommended, *first*, that such determination be made known throughout the country at an early date, that the price be fixed at 1 Rupee for 20 seers, delivered at the Depôt in Lahore for the zillahs of Goordaspoor, Umritsur, Lahore, Goojranwalla and Sealkote, and that the sellers be informed they will be paid cash on delivery at Lahore; and *secondly*, that the Society be authorized to purchase, in London, the following machines, without the use of which no linseed can be delivered into the English market in a state really fit to command a ready sale.

Two of Dray's winnowing and blowing machines, capable of cleaning 1,200 bushels (900 maunds) of seed in a day, whereas with the imperfect winnowing machines contrived here, only from 60 to 80 maunds a day could be cleaned. The cost of each machine in London is £11-10. The price of two would be £21 or Rupees 210. As they are rather large, the freight and packing would be about £20 more, and the conveyance from Kurrachee up say £10. Total Rupees 510 deliverable at Lahore.

Two of Robinson's flax-seeding machines for rippling off the seed of such plants as may be brought entire, and many will be so brought from Goojranwalla, where the cultivation of 100 beegahs has been specially sanctioned. They are capable of seeding upwards of 2 acres of flax straw in a day. The cost of each is £18-10, of two would be £37. As these machines are smaller than the winnoning machines, the freight and packing, &c. to Lahore would probably not exceed £25, say £30. Total cost to Lahore for the two, £65 or Rupees 650.

These machines would be of great service, set up in conjunction with the screw press, in winnowing seed of all kinds for the agricultural public when not employed by Government, and might be made to repay their own cost in the course of time.

16. It is now necessary to turn to the equally, if not more, interesting subject of flax, as a fibre-producing plant, and the result of the attempts to introduce its preparation into the Punjab. When the experiment was first thought of, it was considered that the indigenous flax plant, was totally unsuited to the preparation of fibre. The fact that in some parts of the Punjab the fibre is used although for very coarse purposes disproved this surmise, and it was believed that by sowing the seed much more thickly than had hitherto been the case, not only would the fibre become finer, but the stem producing it much longer. The instructions that bore on this point were however so generally disregarded on account of the scarcity of seed at the commencement of the sowing season of 1854 with its consequent dearness and the little faith the Zumeendars placed in them, that nothing like a fair trial has been given to the experiment, that of the Society itself having totally failed as already shown, while the total disregard paid to the time of gathering, the stems being in many instances next to burnt up, the quantity of weeds that accompanied the stem, and the trouble attending their removal, took from the experiment all the elements of success it would otherwise have possessed, especially as a large portion of straw was brought in so short as to render it useless.

17. The arrangement made for steeping or retting the plant that might be received in the Cantonment of Lehna Sing, where excellent well-machinery was set up to provide water, at the garden of Shalimar, and in a garden known as Dara Sheko's, beyond Shalimar, were complete in every respect, and treble the quantity of flax straw received might have been manipulated. But when it appeared that the supply would be very limited, that the well-water in the Cantonment was not suited to the process of retting on account of its hardness, and that the tank in Dara Sheko's garden was superfluous, the operations were limited to Shalimar, where the water of the Husli Canal was found peculiarly suited to the object.

18. On the first commencement of the experiment, it was also understood that flax was sent heckled to the English market, and 132 sets of heckles were prepared and set up at a considerable expense; but it

appeared by a letter received from Mr. J. Macadam, Junior, the Secretary o the Royal Irish Flax Company, and from the testimony of Mr. Steiner, who had been examining the flax in the districts of Umritsur, Goordaspoor, Sealkote and Goojrat, that as flax is now brought to market in a scutched state and not heckled, this last operation being performed in large manufactories, which have completely superseded heckling by hand. This mode of preparation is not now required. Experience has again been bought at a cost of Rupees 1,600, which will however not be thrown away, as the heckles will be made useful in preparing sun, jute, &c.

19. In consequence of the extreme unsuitableness of the straw brought, which amounted, some being green and some dry, to 2,365 maunds, of which at least one-half had to be thrown away, much more labor was required than would otherwise have been necessary to steep, ret and scutch it, and the expense of preparing the out-turn has consequently been much greater than it otherwise would have been. That out-turn has amounted to only 110 maunds of very merchantable flax, which is on the eve of despatch to Messrs. Harton and Co., Calcutta, who have purchased it at Rupees 8 per maund. Assuming that 2,000 maunds of green straw (as some of the 2,365 maunds was dry it is necessary to make the figure higher) were used for the elaboration of 110 maunds, we find that 100 maunds of green straw yielded 5 maunds of flax, and if we turn to the English calculations, we are told that 100lbs. of green straw yield 7lbs. of scutched flax, so that the average return, though high in cost, as will be shown hereafter, is not so unfavorable as might have been supposed as to quantity, while the produce itself will, there is every reason to believe, be favorably reported on.

20. But it is in the fibre obtained from English and acclimated seed, that the most decided and favorable results have been obtained. Of the land sown by the Society, 2 kanals (half a beegah) were devoted to a small quantity of the seed obtained from England, and reserved from the previous year's experiment in the Society's garden. The difference between the plants from this and from native seed was striking from the first day of their appearance above ground, while the produce in length and fineness left the country plant far behind In quantity also, there appeared a very great difference, as while the country straw yielded at the utmost 2 maunds per beegah, if so much, the 2 kanals of English plant, with small samples from Hooshiarpoor, Umritsur (grown by Rajah Sahib Dyal), Jullundur,

and Kangra, also grown from acclimated seed, yielded 3 maunds and 35 seers of flax, obtained with much less difficulty of manipulation, and far superior in length and quality. Flax that should be worth from £35 to £40 in the London market, or say Rupees 10 in the Punjab, which at the rate of 3 maunds per beegah would give Rupees 30 as the produce of a beegah, besides the seed.

21. It is clear, therefore, that although the indigenous produce would yield a good fibre usable for many purposes, if the seed were thickly sown, and the plant were gathered at the proper time, and that it would become even a remunerative product in the Punjab if used on the spot for coarse manufactures, and perhaps command a sale in Europe, where we have been assured that coarse Indian flax would be prized, it is most desirable, with reference to the general anxiety manifested by the Zumeendars to obtain English seed, and to the advantages that must result from the cultivation of a staple which appears, after a successful trial of two years, to be peculiarly suited to the Punjab, that steps should be taken to ensure a supply of good English seed for the sowing of 1856-57.

22. It may be remembered that the Society recommended in their original paper on this subject, which recommendation was approved of, that 5 tons of English seed should be sent out for distribution. The Court of Directors ordered the purchase and shipment, but by some mishap, of which no explanation has yet been afforded, only 29 packages, each containing 100lbs. of linseed, have reached the Society. On these being opened, it was found that 600lbs. were so damaged as to be completely useless. The remaining 2,300 appeared good, and as the season was advancing, immediate steps were taken for distributing the same in proportions approved of by the authorities.

23. A portion of this seed was reserved for sowing at and near Lahore, and on the 10th and 13th of October, several fields in various parts were sown, under varying circumstances of soil, &c. Good linseed usually makes its appearance above ground in five days; fifteen days elapsed, and not a sign of germination. Twenty days were allowed, with no better success, and it became clear that the whole of the seed was bad; on this conviction fixing itself on the mind of Mr. Steiner, it was resolved, at once, to forward to the districts of Goordaspoor, Goojrat, and Kangra, an equal share of 210lbs. of the seed fortunately reaped and preserved from the 2 kanals, sown by the Society; and though the quantity is *very* small, it will serve to keep up the interest in the three

districts named, until a larger supply can be obtained from England, under more favorable circumstances.

24. It became, therefore, the duty of the Society most urgently to recommend, that they be permitted to purchase in the London market, with instructions from themselves direct, as to mode of packing &c., linseed to the amount of 50 tons, and this has been done in a letter already addressed to the Chief Commissioner under date No. as the only mode of obtaining, for the Punjab, such a supply of good seed as shall secure the most favorable chances of success for a most desirable experiment. The Society are happy to learn that the Financial Commissioner has taken a view similar to their own, recommending the purchase, and suggesting that a price be fixed on the linseed, which, though it will not repay the outlay, will in some manner aid in relieving the State from an expenditure, which, though heavy will, in the end, ensure an ample return in the increasing prosperity of the country.

25. When the Society first brought this important subject to the notice of the Government, it was proposed and resolved, that certain rewards should be held out to Zumeendars or village communities, who might devote certain quantities of land to the cultivation of linseed in the manner directed. No Zumeendar appears especially to stand forward as a claimant for the stipulated premia, and in fact none could lay any claim to such, as although, in some instances, the one point of breadth of land has been attained, none of the other conditions of thick sowing, careful weeding, and timely reaping, have been attended to. Some Zumeendars or village communities have, however, distinguished themselves by the extent of land they have sown, and it may be a question for the consideration of Government, whether they will take the following claims into their liberal consideration :—

Mayadass, of Jhung, who is reported to have exerted himself to the utmost, though unsuccessfully, and to have incurred in actual cash loss ... ...Rs.	100	0	0
Nine persons in the Loodiana District, who showed energy and willingness to cultivate, as per Deputy Commissioner's Letter to Financial Commissioner .. ...Rs.	50	0	0
Four villages in the Ferozepoor District, the inhabitants of which took pains with the cultivation, and obtained a ten fold return for seed, as per Deputy Commissioner's Letter to Financial Commissioner .. ..Rs.	40	0	0

Zumeendars of Kangra, to be distributed at the discretion of Deputy Commissioner ... ...Rs.	100	0	0
Eight Zumeendaree Communities in the district of Lahore, Rupees 495 have been recommended by the Deputy Commissioner, but one half of his award is suggested for his Nos. 1, 4 and 5 seems enough ... ...Rs.	45	0	0
Seven Villages in the District of Goojranwalla, in which the cultivators exerted themselves, as per Deputy Commissioner's letter to the Financial Commissioner ... ...Rs.	65	0	0
Forty-six Villages in Sealkote, in which upwards of 15 acres were cultivated, 5 Rupees each ... ...Rs.	230	0	0
Rajah Saheb Dyal, of Umritsur District, who cultivated largely, though unsuccessfully, owing to a fall of hail, but sent in some fine straw from			
A letter of thanks from Chief Commissioner.			
Three Villages in Zillah Goordaspoor, in which 54, 44 and 39 acres were respectively sown, 100, 90 and 80 Rupees respectively ... ...Rs.	270	0	0
And 43 villages of same District, in which upwards of 20 acres were sown, each 7 ... ...Rs.	311	0	0
Three Zumeendars of Khangurh, where linseed was previously unknown, who cultivated each 15 biswas, at Rupees 10 each ... ...Rs.	30	0	0
To Deputy Commissioner of Goojrat, where, though no special efforts were made, it is desirable to give an impulse on account of the suitableness of the soil for linseed for distribution at his discretion ... ...Rs.	150	0	0

Goordaspoor and Sealkote have been especially selected for higher sums, as in those districts, not only has linseed been largely cultivated, but the returns, especially in the first, prove that the cultivation has been careful, Goordaspoor showing nearly 50,000 maunds of linseed for 12,000 acres of cultivation, which, though it cannot have yielded a desirable profit this year, would, had the probable market prices been known, have afforded a very fair return at 20 seers per Rupee, while improving culture will ensure a much higher return. In some instances 8 maunds per beegah has been the known out-turn, which would give a gross return, at 20 seers, of Rupees 32 per acre.

The total of the several sums amounts to Rupees 1,491, and it might be an advantage to future operations, of a like nature, undertaken under the auspices of the authorities, to bestow them as rewards, or such portions as the Government may deem fit.

26. The whole of the operations connected with the receipt, rippling, and cleaning of the linseed, the preparation of the flax and every thing connected with the produce, have been conducted, under the general superintendence of the Secretary of the Society, by Mr. Lawrenz Steiner, who has also kept the accounts, and has rendered, for the small stipend allotted to him, services in which zeal, industry and intelligence have been so intimately blended, that it is difficult to say which quality excels. His practical knowledge on all points, connected not only with the preparation of flax, but agricultural operations in general, and his diligence in superintending a large number of workmen, have been most useful. He has not only done the work entrusted to him well, but has commenced the preparation, with a very small establishment, of such agricultural implements, as are, by their simplicity, combined with efficiency, calculated, if generally introduced, to create a great improvement in the pursuits of the Zumeendars. He has tact in accommodating himself to the people, with determination to take the utmost amount of work out of them. He has taught a large number of workmen from various parts of the country, not only the practice of preparing flax, but the why and the wherefore of the operations, and has selected a set of 15 men, who, by their superior intelligence, are qualified to become instructors during the operations contemplated by the Financial Commissioner for the season 1855-56, and whom it will be well to retain, as they are engaged on sundry experiments now under trial, as will be shown hereafter.

27. Taking the services of Mr. Steiner into consideration, and the advantages to be derived from their continuation, it is strongly recommended that they be secured for a further period, and that an advance of Rupees 50 be made to his present stipend, from 1st December 1855, and permission to accept from the Deputy Commissioner of Umritsur Rupees 50 for a visit of seven days, once a month, to superintend the formation of a model farm in that district; the present horse allowance of Rupees one per diem be continued to him.

28. It is further recommended, that Mr. Steiner be authorized to keep up a small establishment of blacksmiths and carpenters, to the extent of

Rupees 80 per mensem, for the continued manufacture of agricultural implements, and that he be authorized to purchase, from time to time, such materials (wood, iron and charcoal) as may be requisite: himself and the establishment to continue under the general supervision of the Secretary of the Agri-Horticultural Society.

29. If the chief attention of the Government has hitherto, at the suggestion of the Society, been devoted to linseed and flax operations, it is because the present state of the Home trade in those articles seemed to demand such exclusive attention. In the course of the operations that have arisen out of their recommendation, the subject of the produce of fibre in general, now in such increasing request in England, has forced itself on the notice of the Society, and they find on investigating the matter that not only are the sunokra (Hibiscus cannabinus) and sun (Crotolaria juncia) grown in the Punjab, not however with any reference to export, but only in such quantities as suffice to meet the small local consumption, but that the true hemp of wonderful strength, and a fibre-producing nettle (no doubt closely allied to the plant which furnishes the far-famed grass-cloth), are indigenous in our Himalayas, and that they might both be made available for exportation. In the course of 1853, the Society received a few seeds of a Chinese fibre plant, which proved, on their producing seven plants in 1854, to be a species of Corchorus. The fibre of one or two was tried, and found so strong, that it was resolved to give it a trial. The seeds of these plants sufficed to sow a bed of 12 square yards in June 1855. The plants grew luxuriantly, and so strongly resembled the Corchorus obitorius, or common jute plant of Bengal, used to make gunny, that no doubt can be entertained of its being either that plant, or one closely allied to it, and suited for the production of a valuable fibre. The bed has been reaped and several pounds of seed preserved, while the straw is undergoing the process of retting at the present moment. It is also ascertained that the Bengal jute plant is cultivated by the people in the Punjab, though to no greater extent than the sun and sunokra.

30. A quantity of sun, the produce of two kanals, has been purchased and steeped. A considerable quantity of sunokra, reared in the garden, has been submitted to a similar process. Sixty maunds of hemp and nettle are believed to be on their way from Kangra, also to be manipulated; and when all are in a state of sufficient forwardness, samples will be prepared and experiments made to test the strength of the fibres

enumerated, as compared with the native and acclimated flax, prepared at Lahore.

31. But experiments of this kind will lead to but small results; larger operations are necessary to induce the general cultivation for exporting purposes of fibre-bearing plants, a branch of trade for which the soil, climate and increasing facility of export of the Punjab peculiarly fit this country. The navigation of the Indus is now open in reality. Fleets, instead of solitary boats, plough its waters, and it is a fact, that a maund of goods can now be conveyed from Lahore to Kurrachee for 13 annas, whereas formely the cost was from 1-8 to 2 Rupees per maund. In the course of another year or so, that figure ought to be reduced to 10 annas.

33. A School of Industry is to be formed at Lahore, where gunny is to be the chief article of manufacture; but gunny cannot be made, unless jute be cultivated to a considerable extent, and if largely cultivated and converted into gunny, that article might be exported to Bombay, which is now supplied from Calcutta, and where gunny bags are used in large quantities for the purpose of packing cotton.

33. To hire land already under cultivation in the neighborhood of Lahore has proved an expensive experiment, but as without land, on a considerable scale, no extensive operations can be undertaken, and it is most desirable that such operations should be undertaken with the view of efficiently testing the value of the several fibre-producing plants already enumerated, and one or two others (the Aboorna augusta which is growing freely in the garden and two other species of Hibiscus), the Society, following up the suggestions formerly mooted by the Chief Commissioner, of turning rukh or waste lands to use for such purposes, propose that the Choogeean and Mamood Bootee Rukhs, adjoining each other, and at no great distance from their garden, be devoted to the cultivation of flax (cold season of 1856-57,) of sun, of jute and sunokra, (rainy season of 1856), and to the plantations of mulberries (February 1857.) These Rukhs are at present let for the sake of the thatching-grass which grows upon them. The lease expires on 1st May 1856. Mr. Steiner has constructed an under-ground plough, which would rapidly clear away the roots of this grass at a comparatively small expense; and the whole of the cultivation of the rainy season of 1856 might be accomplished at, say 4 Rupees per beegah. Thus 3 or 400 beegahs might be taken up at an early date, and the remainder brought immediately after the

rains into a state of cultivation suitable to flax and the plantation of mulberries in 1856-57. The proximity of the river would afford special facilities for retting and the erection of three or four open long sheds when the manufacturing time came would entail but small expense, with thatching grass at hand.

34. Considering the success which has undoubtedly attended the increased cultivation of linseed, the partial success that has followed the flax operations, and the special advantages that will result from the extension of the cultivation of fibre-producing plants, as a source of increasing wealth to the people and the foundation for an export trade of considerable value, the Society most earnestly hope that their recommendation on this head may receive the attention and favorable consideration which they deem it deserves. Fibres are becoming scarce in England, as evidenced by enhanced prices, and so valuable, that large quantities of land are now being devoted (in Ireland alone where Government give annual premia to the amount of Rupees 10,000) to an unprecedented extent to their production; while considering the immense difference between the value of land and labor in the two countries, it must be evident that even allowing for heavy freight charges, fibres, &c. must be landed in England, from the Punjab, making Kurrachee the place of export, at a much lower figure than it can be produced there; at the same time that the gradual introduction of machinery here, and its careful adaptation, will enable the Punjab producer to furnish quite as good an article, temperature considered, as the cultivator in Egypt, the flax from which is now yielding from £40 to 45 a ton in the English market. The outlay proposed by the Society, in which must be included the purchase of seed of sun, sunokra and jute, to the extent of perhaps Rupees 100, will not be very great in the year 1856, at the utmost Rupees 3,000 for 400 beegahs of land including manipulation, and the return at the present bazar rate of coarse ill-prepared fibres at 16 seers per Rupee, and 4 maunds per beegah, (5 would be nearer the mark) would be Rupees 4,000 at the least, independent of these operations, bringing gradually a large tract of land under improved cultivation, whereby instead of yielding 1 Rupee per beegah as now for the grass, it will be rentable for between Rupees 2 and 3 in the course of five years, should the land then no longer be required.

35. It now remains that a detail be given of the financial result of the linseed and flax operations committed to the charge of the Society, which shall be done as briefly as possible, consistent with perspicuity.

The total sum in Cash, and by Receipts for produce, which have been entered in the Books carefully kept by Mr. Steiner, and which are herewith submitted, amounts to ... ... Rupees		15,080	5	3
The details are as follows:—				
Expended from the 9th of February to the end of October in cash	Rs.	8,778	11	9
Receipts granted for maunds 46,967-8 of linseed	„	5,797	1	5
Ditto ditto for 2,365 maunds of straw	„	266	3	1
Certificates for carriage from various quarters ...	„	238	3	0
To this must be added the estimated cost, with carriage to Kurrachee, of 6,605 maunds, as detailed in para. 11, @ 2-12...	„	18,163	12	0
Printing bills, Rupees 278, and hire of land 800	„	1,078	0	0
A total outlay estimated at	„	34,321	15	3
And the proposed amount of rewards	„	1,491	0	0
Total, Rupees		35,812	15	3
On the other hand, the return at Lahore of 4,705 maunds of linseed, at 2 Rupees per maund, is	„	9,410	0	0
The probable out-turn of 6,605 maunds at Kurrachee, at an estimate of Rupees 4-6 per maund	„	28,896	14	0
The price of 108½ maunds of country flax, sold to Messrs. Harton and Co., at Rupees 8 ...	„	868	0	0
Price of 3½ maunds of flax from English acclimated seed, at Rupees 10	„	35	0	0
Total, Rupees		39,209	14	0

Deducting the total of probable expenditure, from total of probable receipts, a surplus will be found of Rupees 3,396-14-9, which may be set down as the Government profit on the transaction. But it is considerably more, for the following sums included in the expenditure at Lahore of Rupees 8,778-11-9 are to be deducted, there being stock in hand to represent them, though experience has shown some of them to be useless, or no longer required.

1.—238 Ripples, at Rupees 2-8	Rs.	595	0	0
2.—132 sets of heckles, at Rupees 11	„	1,452	0	0
3.—Fitting these on boards and into pillars ...	„	130	0	0
4.—2,250 Taut bags	„	1,054	11	0
5.—1,800 Doosootee bags...	„	316	2	0
6.—Gate, steps, &c., at the Cantonment ...	„	80	0	0
7.—Five winnowing-machines, 2 at 60, 2 at 40, 1 at 30	„	230	0	0
8.—Subsistence money paid to Jullundur Zumeendars	„	22	8	0
9.—Scutching Boards, &c.	„	156	0	0
10.—Seven trenches, three lined with masonry	„	187	0	0
11.—Fittings of Well in the Cantonments, with tanks, channels, troughs, &c.	„	600	0	0
12.—Roads in various directions leading to the Cantonment	„	300	0	0
13.—Plastering the whole of the Work-shops in the sheds	„	150	0	0
14.—Fitting up tank in Dara Sheko's garden ...	„	100	0	0
15.—Agricultural Implements	„	200	0	0
16.—Sundries	„	200	0	0
Total, Rupees		5,773	5	0

Of these items, the heckles may be made useful for the proposed jute and sun operations, Rupees 1,452. The bags will come into use next year, if the further purchase of linseed be authorized, Rupees 1,370-11-0. The ripples and winnowing-machines, with scutching boards, may be taken to be worth half the original cost, Rupees 490-8-0, while the agricultural implements are all to the good Rupees 200. Total available stock Rupees 3,413-3-0, which being added to estimated profit gives a total of Rupees 6,810-1-9.

The difference between Rupees 3,413-3-0 and Rupees 5,773-5-0, or Rupees 2,380-2-0, may be considered as profit and loss, by which the Cantonment of Lehna Sing has especially benefitted, being improved in its approaches, and rendered available for the School of Industry without further outlay, while the difference between Rupees 8,778-11-9 and Rupees 5,773-5-0, that is, Rupees 3,005-6-9, including 8 months' salary of the

Superintendent, upwards of Rupees 1,000 must be set down as the cost of labor, for rippling and cleaning the seed brought to the Depôt at Lahore, and retting, scutching, packing, &c., the flax prepared here.

Samples of the flax prepared in the Lahore Depôt are sent herewith, and it is recommended that they be forwarded to the Hon'ble the Court of Directors for submission to competent authority in England. They consist of

Sample No. 1.—2½ seers, 5lbs. scutched flax, reared from imported seed, 2 kinds. A good deal of fresh manure used in the cultivation.

„ No. 2.—2½ seers, 5lbs. scutched flax, reared from country seed, season of 1854 55. No manure used; gathered when full ripe.

„ No. 3.—2½ seers, 5lbs. scutched flax, reared from country seed, reaped after seed was fully ripe.

„ No. 4.—Sundry samples of partly heckled flax, reared from country seed, grown in unmanured fields.

„ No. 5.—Sundry samples of heckled flax, reared from imported seed; field cultivation.

„ No. 6.—Samples of tow, after heckling flax, reared from imported seed.

„ No. 7.—Sample of scutched flax, raised from imported seed, careful garden cultivation.

„ No. 8.—Sample of scutched flax (plant over-ripe), reared from imported seed, given to Rajah Sahib Dyal, a large cultivator near Umritsur.

„ No. 9.—Scutched flax, reared in the Kangra District (Hill) from acclimated English seed.

„ No. 10.—Fibre (stripped) of Sunokra (Cannabinus) grown in poor sandy soil, (more will be sent hereafter).

„ No. 11.—Small quantity of wild hemp from the District of Kangra, (more will be sent hereafter).

In concluding this Report, the Agri-Horticultural Society of the Punjab feels it incumbent on them to express their grateful sense of the most liberal and enlightened spirit, in which every suggestion of theirs, in connection with the interesting experiment, has been adopted; and they trust that the fact of that experiment having been a self-

sustaining one, independent of all other considerations, will secure for their further suggestions the support which alone can command success.

They beg to recommend an early application to all District Officers for a return of land, taken up this season for flax cultivation.

(Signed) HENRY COPE,
Secretary to the Agri-Horticultural Society of the Punjab.

LAHORE,
The 29th November 1855.

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